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IN THE WEST.

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The Design for Our New Title Page.

The radical change in title page made in the last issue of this journal does not call for special remark, perhaps, but as considerable comment has been made upon it, and inquiry regarding the process by which the design was executed, we print the following description from the *Elite News*, which published the design as an art illustration:

THE INLAND ARCHITECT, a Chicago journal devoted to architecture and the allied arts, appears this month in a new dress. The successes of this publication during the years of its existence have served to place it, now in its tenth year, in the foremost rank of domestic or foreign architectural periodicals. Added features of interest in the matter of increased text and plates mark this new volume, but that which attracts especially in this number is the cover, which we reproduce in this issue of the *Elite News*. It is not always possible to translate symbolic art into words, and in placing one's own interpretation on a work one is not always safe in assuming that he has touched the chord that thrilled the designer. However, the designer of this cover has worked out his problem in a manner so direct and simple that there is little need of wordy interpretation. The idea seems to have been to represent a portal, treated in the elegance of the Italian Renaissance, beyond which portal are stored the treasures of the publication. The portal is flanked on the one hand by a sculptured figure of "Design" just at the point of raising the pen to formulate and record the inspiring thought; and on the other hand by "Construction" in the act of applying and embodying the recorded idea. The sculptor has suggested very happily the ideas of construction and design, not only in the pose of the figures, but in the treatment of the draperies, giving to one the airy, flowing raiment suggestive of the realms of thought, and to the other the sturdier garment of a work-a-day world. The lines of the figures compare beautifully with the architectural background, which is itself composed in a commendable spirit of restraint, considering that the designer was left free, by the publishers, to work out his own idea. Taking it all in all, this cover may be considered a good example of the beauty which lies in the simple, well-directed use of elegant architectural and chaste sculptural forms. The design is from the pencil of Mr. Irving K. Pond, of the architectural firm of Pond & Pond, and the modeling was done in clay under his supervision, by the well known sculptor, Mr. Lorado Taft.

Death of Edward Burling, Architect.

With the changes that come so rapid and are in their results so important to the upbuilding of Chicago the retirement or death of those who laid its foundations and were most active in its material growth is one of the inevitable features. In January, the first architect to give his services to this work, Mr. John M. Van Osdel, died, and in March, the second architect, younger by a few years and who commenced practice but a few years later than he, left the scene of his labors. The name of Edward Burling is associated with many of the first as well as the latest buildings of the second city in the United States. He came to the city when its inhabitants numbered but a few thousand, and in 1861 had a large practice. Mr. Dankmar Adler, whose acquaintance with Mr. Burling began in 1861 when he first came to Chicago, and who became his business associate in 1871 continuing for eight years, gives a retrospective glance upon so much of his life as came under his notice. When Mr. Adler came to Chicago, Mr. Burling was recognized as one of the leading men of the city, and he was a man of mark not merely as an architect but as a citizen and as one ready to identify himself with every advanced movement. He had been identified with the marvelous growth of Chicago up to the time of the great fire; had been the architect of some of the best buildings of that period, such as the Marine bank, the Portland block, the Masonic temple, the Chamber of Commerce, the Dickey building, the First National bank, the Tribune building, St. James church, Methodist church block, Garrett building and many others of almost equal importance. Up to that time, he had been associated in business with Mr. Robert Schmidt, Mr. Frederick Baumann and Mr. Edward Baumann, but the impress of his strong personality was found upon all of the work emanating from his office. He

took a prominent part in the reconstruction of Chicago after the great fire, and was engaged in the reconstruction of all of the buildings before mentioned except only the Chamber of Commerce, and in the original construction of many buildings covering miles of street frontage. During this time he was for two years County Commissioner, and was also for three years Superintendent of Construction of the United States government building. Soon after the termination of Mr. Adler's connection with him he associated himself with Mr. F. M. Whitehouse, and in conjunction with him built the present First National bank building, the residences of S. M. Nickerson, C. T. Yerkes, H. N. Higinbotham and many others. Mr. Burling was a man of sterling honesty and very clear vision as to what was right and wrong. His familiarity with the best literature of the English language and his sympathy with the progress of culture and humanity were known only to his more intimate friends. As a constructor, he had no superior among the architects of his day, and up to a month before his death his activity continued. His age was not such as to make his retirement necessary, but a severe fall two years ago, caused by his forgetting that his youthful activity was leaving him, was probably the real cause of his last illness. Architects and contractors who had known him through life followed him to his last resting place at Rose Hill; and as in life they respected, in death they united in testifying to his integrity and justice and the many other admirable qualities which had made him a just architect and an honored citizen.

A Natural Result of Loose Building Practices.

With the immense amount of building done in Chicago it would seem that the building laws and their enforcement would be one of the most prominent features in the local economy, especially as few buildings have collapsed in the last ten years. This, in the light of recent events, seems to be more from good fortune than from any definite plan of protection. A stormy afternoon lifted a few roofs and blew down a few incomplete frame houses in the suburbs, and would have caused but passing remark had not a seven-story brick structure in a thickly populated district collapsed and killed a number of people. The investigation only brought before the public what architects and contractors have known and sought to remedy for the last decade. The permit was issued for a three-story building. A loosely directed building department did not inspect in a practical manner; an owner that only cared to build cheap got a cheap contractor and a cheap "architect" (he is said to be employed by an architectural iron concern in some capacity), and a little wind and a little rain blew the structure down before it was completed. Though the jury indicted the building commissioner, the inspectors, owners, "architect" and contractor, and the grand jury may try them, it will be found that no one is responsible. A building commissioner is appointed because he is a politician; his department is a political one and therefore largely influenced by politics; the "dummy architect" practiced as such because no law can be passed in the state regulating the profession of architecture, because such granger architects would lose their occupation, and the politician would lose votes if he attempted to deny him the privilege of imperiling people's lives. No, there is nothing singular in the Pearce street disaster. The singularity is that more of such do not happen, and that the public will blame the owner, building inspector and "architect" when they can expect nothing else when everyone concerned occupies his position from some other cause than his fitness for the office. Unless there is a thorough revision of the building ordinances, drawn up by architects and not by politicians; a building department instituted with a trained architect for its head, and capable men appointed for their ability and integrity for inspectors under him; a special inspection of the plans for all important structures by a committee of architects especially engaged for the purpose; and last, the passage of a bill in the state legislature providing for the examination and licensing of architects before they are permitted to practice, greater disasters than the last will be a natural result of the present prevailing condition of building practices in Chicago.

Sculpture at the Columbian Exposition.

The sculpture upon the World's Fair buildings will probably excite as much interest and criticism from foreign architects and artists as any other feature of the Exposition designs. It is probable that the only sculpture that will be executed in bronze will be the large fountain in front of the Administration building. It is now being cast in Paris and is illustrated in this number. The artist, who is now in Paris directing the work, is Frederick MacMonnies, of Boston, and a pupil of St. Gaudens. The sculpture of the Agricultural and the Fine Arts buildings will be by Philip Martiny, of New York; the Administration and the Manufactures and Liberal Arts buildings, by Carl Bitter, of New York; the Transportation building, by John Boyle, of Chicago; the Horticultural building, by Lorado Taft, of Chicago; the Machinery building, by Robert Kraus, of Boston; the Electricity building, by Carl Rohl Smith, of Louisville; and the modeling on the Fisheries building, by Joseph Richter, of Chicago. The statue of "Columbia," which will overlook the lake at the water entrance to the Fair, is by Daniel Chester French, of Chicago. Of these sculptors the majority are American, that is, either born or educated in this country. Carl Bitter is the exception, having come to the United States two years ago. The work performed by these sculptors is excellent, and will advance the cause of art immeasurably. In fact the Columbian Exposition will probably give as great an impetus in the direction of pure architecture and the allied arts as it will to commerce.

Remarkable Bidding for Electric Lighting.

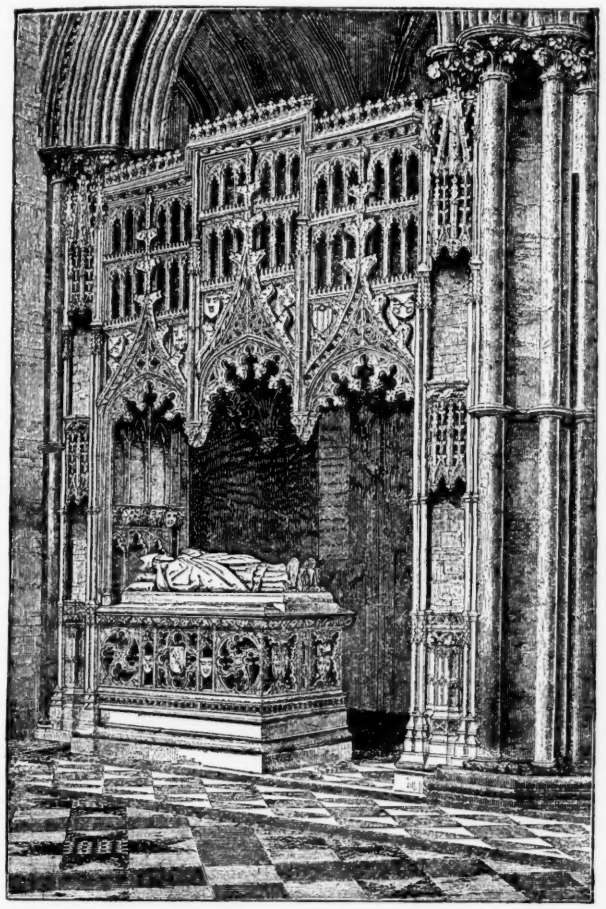
Recent developments in the letting of contracts for electric lighting for the World's Fair show how strong a combination existed between four of the largest companies. When bids were called for for the incandescent lighting the combine bid $18.50 per light, and a company not in the electric lighting business but backed by a number of smaller concerns placed a bid for $6.60. This was met by the "combine" by a second bid for $5.95 per light or a total of about $553,000, and the contract was awarded to them for 93,044 lights at a saving of some $1,200,000 on the first proposition. This includes the entire incandescent plant and its maintenance. The Exposition management is to be congratulated upon the outcome of this important controversy and it is hoped that the result will deter other companies from seeking to obtain an exorbitant profit upon work done in connection with so thoroughly a national and beneficial enterprise as the Columbian Exposition of 1893.

Architecture and the Allied Arts.

BY BARR FERREE.

PART V.—*Conclusion.*

IN treating the subject of architecture and the allied arts it becomes apparent that two forms, painting and sculpture, have received the most attention from the artists of all time. Other forms of art, as metal work, enamel, mosaic, painted glass, and similar minor forms were developed chiefly in some one style, and even though they were employed in many others, they sunk into subordinate



TOMB OF BISHOP REDMAN IN ELY CATHEDRAL.

positions. Painting and sculpture, however, are present in nearly every form of architecture, and generally in a well-developed state. The following table has been prepared to present a summary of the subject, and to show at a glance the relative uses made of various forms by the leading styles. The one art which was mostly employed in each style of architecture is printed in a bold-face type.

THE ALLIED ARTS IN ARCHITECTURE.

Egypt	**Painted Sculpture.** Painting. Sculpture.	Mahommedan	Tiles. **Carved and Painted Geometrical Decorations** Painted Ornament.
Chaldæa and Assyria	Painting. Sculpture. **Metals.** Enamel.		
Greece	Painting. **Sculpture.** Metals.	Mediæval	Painting. Sculpture. Mosaic. **Painted Glass.** Carved Wood. Metals.
Rome	Painting. Sculpture. **Inlaid Marble.** Mosaic. Metals.	Renaissance	**Painting.** Sculpture. †Mosaic. Carved Wood. Metals. Glazed Pottery.
Byzantine	Painting. *Sculpture. **Mosaic.** Metals.		

It should be noted, however, that as mankind advanced they made use of a great variety of arts, so that in the Gothic, the latest of all the original forms, nearly every phase that had been employed in previous styles here finds a definite and characteristic use. The manner of using different arts varies with the progress of taste. There is a gradual evolution of sculpture from the low reliefs of the Egyptians to the full round of the Greek, Roman and Gothic. Painting is chiefly employed to depict scenes, even in such widely separated styles as the Egyptian and Gothic. It is, however, often used to color ornament and in the representation of ornamental designs. The Greeks, for example, made large use of painted ornament, which in other styles, the Corinthian, for example, is displaced by sculpture. Metal, while used in a splendidly barbaric manner by the Assyrians, becomes a most useful and well subordinated ally in other styles.

In making use of the allied arts as adjuncts to architecture no especial significance seems to have been attached to subject matter. The Egyptians covered the walls of their palaces and temples indifferently with scenes from sacred and royal life, and much the same may be said of their tombs, though here incidents from the book of the dead, and many episodes from the daily life of the people are to be found. The methods employed in the decoration are the same, whatever the subject, and the appearance of a wall decorated with sacred scenes and one covered with events in the history of a great Pharaoh exhibit no difference to the casual eye. It is the same with the Greeks, and while the gods in the pediments of the temples had a higher relief, or rather were full statues in the round, while the figures in the frieze, being chiefly of human beings, had a low relief, the difference is one of position and has no connection with the subject matter. It is the same in the Gothic, and though in the churches statues of saints and divine personages are the rule, viewed from an architectural standpoint they are simply statues. Their real meaning has no special significance. The works of Raphael or of Michael Angelo are so much fresco and exercise the same function of wall coverings whether they relate to sacred or profane history. There is, at various times, a greater development of one form of representation than another, but as statues, paintings or enamel they are the same, so far as occupying certain positions in the building is concerned, and so far as they are decorative adjuncts.

One or two minor arts call for consideration. Inscriptions occupy a position of considerable importance in early forms of art. It was necessary to give an absolute name to the representation of figures or scenes in order that there be no misunderstanding as to what was represented. Accordingly these elements disappear with the progress of art. The Egyptian hieroglyphics form a very considerable part of their sculptures, and while they may never have been employed as a decoration the uses that they were frequently put to made them such. The Chaldæan and early Assyrian reliefs had an inscription carried straight across the figure, a peculiarity that was fortunately confined to this one form of art. The method was, therefore, dispensed with in the later work. The Greeks used brief inscriptions, generally not more than a word or two, to indicate the individual represented, a

MOORISH INSCRIPTION (PENDENTIVE, FROM THE COURT OF THE LION, ALHAMBRA).

system followed by the Romans, Byzantines and early Gothic artists. In all these styles the inscription is extremely limited and is frequently omitted altogether. With the full development of paintings the usage was neglected, for then art and intelligence had advanced sufficiently to enable the work to be thoroughly understood without any disfiguring marks. The most beautiful and successful application of inscriptions to decorative purposes is furnished by the Mohammedans, who

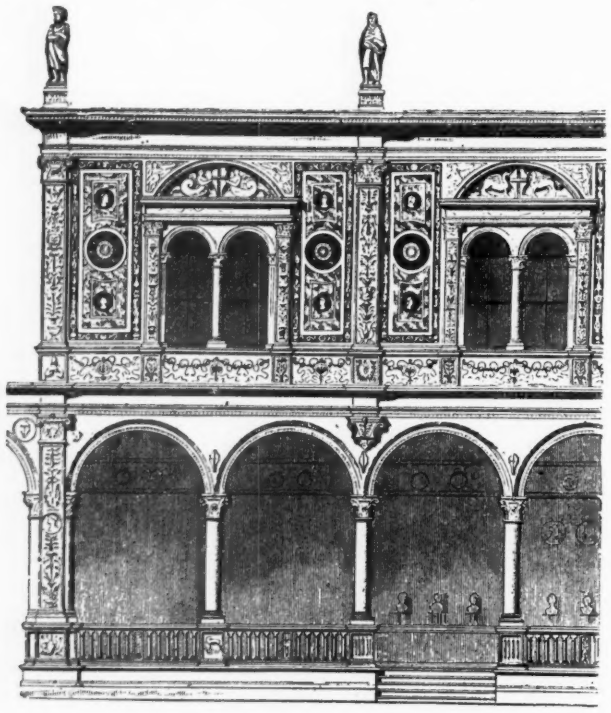
*Use very slight. †Not characteristic.

devised what might almost be termed a special style of decoration from their writing.

Hangings and tapestry have always held an important place in buildings of all kinds, both sacred and profane, and in all times until our own. In early forms of art, and in fact until quite recently, they formed the chief method of covering the walls. Practically their effect was similar to that produced by wall paintings, but even till near the end of the Renaissance no building was completely furnished until it had been hung with tapestry. The treasures of the great mediæval cathedrals include many sets of hangings, which were brought out on gala occasions, and gave an additional splendor to the magnificence of the edifice. It cannot, however, be said that this form of art exercised any special influence on architecture.

One special form of decoration was practised in Italy in the period of the Renaissance which deserves mention, namely, *sgraffito*. This mode of ornamentation, which is very simple, and in the Italian climate both permanent and effective, consists in laying on a coating of black plaster, over which is spread a thin coat of white. The design is then engraved on this, coming out in black.

It will be noticed that, in tracing the influence of the allied arts upon architecture, more attention has been given to religious art than to secular. The relation of religion to architecture is too extensive a theme to be opened here, but it is a highly significant fact that the



SGRAFFITO DECORATION FROM THE LOGGIA DEL CONSIGLIO, VERONA.

highest development of ornament of any kind is to be found in conjunction with sacred edifices. The temple and the church were the structures on which the people lavished the whole of their resources, and though in time secular buildings borrowed from ecclesiastical ones, the latter remained the finest exponents of all decorative systems. Nor is this the only reason, for sacred buildings have survived in a more complete state than secular ones, not only because they were frequently built with greater care and with better materials, but because the traditions with which they were surrounded inspired an awe which was often a means of protection from desecration. These facts account for the almost exclusive use that has been made of religious architecture as a source of illustration in the present series.

It must not, however, be inferred that secular buildings were in any way deficient in ornament, or that the allied arts entered into less intimate relationship with architecture in them than in those devoted to worship. On the contrary, in every style in which a system of decoration was consistently carried out, the secular buildings were not less elaborately ornamented than the ecclesiastical ones. The palaces of the monarchs were loaded with the riches of the land, as were the temples. Sometimes, in fact, they exceeded them, as in the Roman empire and the period of the Renaissance. Different causes, however, produced similar results in these two instances. In Rome religion sunk into a civil function, and was kept up more in regard to popular feelings than from any religious feeling. In the Renaissance Europe found itself abundantly provided with churches and cathedrals, and the artistic energy which had previously been spent on the church was now devoted to the palace.

The effect of this change upon ornamentation was very great; artists were no longer confined to sacred subjects nor limited by the solemnity befitting a church. Secular art developed with an astonishing rapidity, ancient forms and methods were seized upon with avidity and an entirely new system devised which had no connection with the old ecclesiastical forms. The Renaissance was, therefore, as the period of the Roman empire, a time of the decoration of the palace as distinguished from the decoration of the church. The difference between the new and the old style was one of forms rather than of methods. The walls were covered with paintings or hung with tapestry just as the church was, though now the secular forms and adaptation of ideas to secular life gave a new and distinct appearance to the ornamentation. Into the history of this evolution it is not necessary to enter, but it should not be forgotten that in all periods and in all styles the union of all the arts was close and intimate without regard to the uses to which the building was to be put.

The decoration of the house was more internal than external. In earlier times, even as far back as the period of Greece and Rome, the householder prided himself more upon the internal arrangements of his house than upon its external aspect. He aimed to have his art treasures where he could enjoy them in the society of his friends rather than to display them for the benefit of an unappreciative public. Gorgeous exteriors were therefore reserved for the palaces of the monarch or great nobles who wished to impress the populace with their importance and wealth. Later, in the middle ages, the unsettled state of society prevented the use of any considerable ornament on the façades of the dwelling, and in fact the houses of the great men were nothing less than fortresses that were constantly subject to attack from enemies who had small regard for any object of beauty. When this state of affairs had improved, some attempts were made at external decoration; but progress was slow, and it was usually confined to a small part of the façade, as, for example, the doorway or entrance. Mediæval houses appealed more to the eye by their beauty of dimension and solidity of structure rather than by an elaboration of ornament. In the towns there was a greater freedom of display, for here was less danger, but it was not until well into the Renaissance that it became usual to elaborately decorate the dwellings of private citizens.

Recent Fireproof Building in Chicago.

BY P. B. WIGHT, ARCHITECT.

PART III.

IRON AND STEEL FRAMED BUILDINGS — VERTICAL SUPPORTS.

IT is not proposed, in the limits of these papers, to attempt any detailed description of the several methods that have been used in the construction of steel or iron frame buildings. In the materials used for vertical supports there has been considerable diversity. The principal kinds that have been used comprise: First, cast-iron columns, generally of square or rectangular section; second, rolled-steel columns of the Z-bar pattern, with their various combinations and the introduction of stiffening plates; third, compound steel columns of channel steel with side places or lattice connections; fourth, steel-riveted columns of the Phœnix or Carnegie patterns. The latest column to be introduced is the Larimer column or Jones & Laughlin pattern, composed of two I-beams bent through their whole length at the central line of the webs, and held together with one row of rivets, making a cruciform column having "flanged flanges." The latter are made with rolled-steel end connections, which was not formerly the case with the Phœnix columns. But I understand that these have recently received this improvement.

Cast-iron columns are greatly preferred by many architects. It is claimed that they have an advantage in cheapness, notwithstanding the greater weight of material required to carry a given load. There is no objection to the greater exterior size of cast-iron columns built in an exterior wall, as there is always plenty of room for them.

The Z-bar columns are preferred by many architects and are the favorite with engineer constructors, who are now generally employed by architects. When first introduced for the struts in bridge work, one of the greater advantages claimed for them was that all surfaces of the materials of the columns or struts were exterior surfaces and could readily be cleaned and repainted. This advantage is of no consequence in building work, where all parts of the columns are permanently inclosed in another material and inaccessible whenever thorough fireproofing is attempted. It was also claimed that in building-work, all connections to horizontal members could be made with

more facility and at the minimum of expense. But this has not always been the case in practice. As the girders and other horizontal members do not always attach to the Z-bar columns at their centers, frequently complicated bracketing is required, necessitating the use of many pieces of angle steel and numerous rivets. Besides, where connections are made between successive stories of Z-bar columns, the end plates are cumbrous and difficult to conceal or effectively fireproof without unduly increasing the size of the resultant pillars. No practicable method has yet been devised for making these columns fireproof except by building around them walls of two-inch hollow or porous tiles with rounded corners; and in all buildings yet erected, when used for independent interior supports, they occupy more space when completed and decorated than any other kind of constructive columns. This objection does not hold, however, with regard to columns in exterior walls, where the problem continues to be one of engineering and economy alone. The Z-bar column was originally introduced in building-work, because the material of which it is made was then much cheaper than any other form of constructive steel. But the recent collapse of the constructive steel combination must now result in reducing channel steel to the same price.

The combination of channels with plates or lattice work will at equal cost of material make more economic steel supports than could formerly be had by the use of Z-bars. The bulk of the metal being at the outer line of the columns, less material is used to give equal strength. These are, moreover, better adapted for all the necessary horizontal connections, and are likely to come into extensive use.

The high price of the Phœnix column, owing to its being a patented article, especially after the withdrawal from the market of octagonal flanged Carnegie columns, of similar construction, deterred many from using it who would otherwise have found it best suited to their purposes. But the expiration of all patents has now brought it to a level with all other similar commodities. It is therefore liable to come again into extensive use.

The Larimer column is well adapted for use as an exterior and interior support. It can be fireproofed without much waste of space. It is used throughout the interior of the new Newberry library to carry the girders.

Present experience indicates that the channel steel column is best for exterior walls, and the Phœnix pattern for independent interior

supports. The largest fireproof columns ever built are of this pattern and are used in the Chicago Board of Trade.

In the earliest buildings in which iron and steel were used in exterior walls, these materials were employed to support the outer ends of girders on two sides, and to carry girders independent of the walls on the two opposite sides of a rectangular building. The materials of the exterior walls were entirely relieved of the weight of the floors, and carried only their own weight. The walls thus became a mask for the building, and were constructed lighter and with larger openings than would have been the case had they supported the floors. This system enabled the iron contractors to work ahead of all others. It is still used and is exemplified in the new Leiter building on State, Van Buren and Congress streets, recently erected.

RAPID EXECUTION OF STEEL FRAME BUILDINGS.

The complete steel frame building is one in which the frame actually carries the whole building. The outside and inside are one entire homogeneous construction, and the foundations which have been put in for the steelwork are those which are to carry all the other materials. The exterior and interior walls are built *on* and attached *to* the steel frame. Practically the building has no walls. The exterior frame is protected with fireproof material outside and inside, so disposed as to provide for any size or shape of windows that may be desired, and to give a decorative effect on the exterior. On such, ornamental terra cotta is used principally for the exterior, and in some buildings entirely, as in the Chamber of Commerce extension and the new German theater. Pressed and ornamental brick are also used for fronts, and English enameled brick with glazed terra cotta trimmings are used on interior courts and back walls. The inner surfaces are built with hollow building tiles, either of the hard fireclay or porous variety. The horizontal members of the steel construction are built so as to carry the entire weight of this exterior and interior covering. The steelwork of such a structure, with all its projections, bay windows and projecting cornice at the top, may be built from foundation to roof before anything else is added. The steel workers set the pace for the other mechanics. The balance of the exterior and interior work is only a filling. Vertical and horizontal bracing against wind pressure are introduced. Part of this is permanent and part temporary. It will thus be seen that the erection of a sixteen-story "sky scraper" is a race to catch the steel men.

In these buildings the floors are now generally built with a filling between the beams of flat hollow tile arches, and these are often constructed before the exterior inclosing walls are built. This system has been followed with advantage in the Manhattan and Unity buildings. But the speed with which such buildings can be completed has been illustrated in cases wherein the workmen who follow after the steel men, have been seen working on the exterior walls at several different stories at the same time. On the Manhattan building, the end walls of which are entirely finished with salt-glazed hollow building tiles, while the cornice is of brick and terra cotta, the cornice was completed before the wall beneath it was filled in. On the Unity building the granite exterior wall was being built on the first and second stories, the pressed brick layers were working on the twelfth story, the hollow tile men were putting in floors at the fifteenth story all at one time, and after the entire roof over the sixteenth story had been covered out to the exterior line of the cornice. On the German theater the exterior wall was commenced at the third story.

Other illustrations of the rapid erection of "sky scrapers" might be cited. Night work by electric lights has been called into requisition during the past winter, with remarkable results, on three other buildings. But this has been always possible and is not a novel feature, being also an expensive one in which the question has been to gain more in rents than is lost by extra time.

THE CONSTRUCTION OF FIREPROOF FLOORS.

Fireproof floors of wooden joists with fireproof ceilings beneath are not now under consideration. They will be the subject of a future article. Actual experience has demonstrated that steel construction may be supplemented by fireclay construction so as to give a result which it is safe to call fireproof. This is not always the case with fireproofing attached to wood. Fireproof floors now referred to are of three kinds: First, those in which the skeleton construction is of straight steel girders crossed by steel I-beams at proper intervals and supplemented by fireclay construction between the beams; second, those in which the steel girders are either tied together with iron rods, or light I-beams which serve also as struts or braces, and the fireclay arches are thrown from girder to girder; third, floors in which steel is used only in tension and fireclay arches carry all the weights of floors, without girders or beams.

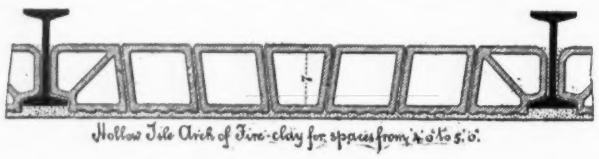
The first is the system in common use. Others have been tried successfully, but the consensus of opinion and the general practice is in its favor. As far as the use of metal is concerned the system of floor beaming is the same as that first introduced when rolled iron I-beams were invented. The principal difference is now in the general use of steel instead of iron, and whereas heavy girders of built-up iron were formerly used where long spans were required, now steel I-beams up to twenty-four inches in depth are obtainable — and twenty-inch beams can be used for long spans, or set at wider intervals for ordinary spans — which was not the case a few years ago.

THE USE OF FLAT HOLLOW TILE ARCHES.

The flat arch system is an improvement on that which was originally introduced in Chicago in 1872 by the late George H. Johnson, and at about the same time in New York by Leonard F. Beckwith. Mr. Johnson's flat arch was much lighter than that used in New York, and all the improvements in Chicago have been in the direction of reducing the weight and increasing the strength of the floors. This reduction in weight has contributed in no small degree to the possibility of erecting such high buildings. The Johnson arches were used in what was then known as the Kendall building, now called the

"Equitable." They were also used to some extent in the Criminal Court building.

The heavy style of flat arch was first used in New York to any great extent in the Delaware, Lackawanna & Western Company's Coal and Iron Exchange on Courtland street. It had previously been used to a slight extent in the corridors of the New York postoffice. No substantial improvement has ever been made in this arch as manufactured and used at New York, except that the western system of



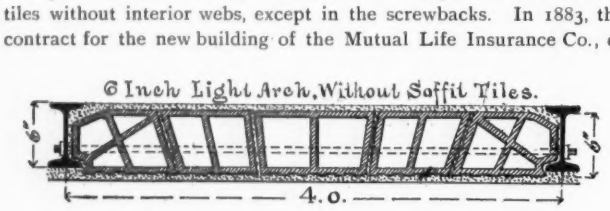
USED IN EQUITABLE BUILDING, CHICAGO.

covering the bottoms of the I-beams has been adopted in a few buildings. But the old style was used there extensively after 1872 in a number of business buildings.

It was not until the Chicago Court House was built (about 1876) that any more flat arches were used in that city. Here they were of very crude material and workmanship, and did not evince any progress. But they are substantial and have served their purpose. A better and lighter form of hollow arch was used in the Chicago City Hall a few years later. This arch was flat on the bottom and curved at the top, the haunches being leveled up with concrete. The work was done by Johnson & Co., afterward known as the Ottawa Tile Company, and now as the Pioneer Fireproof Construction Company.

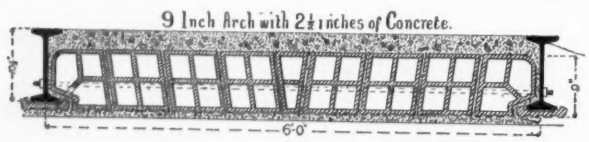
The year 1881 brings us within the range of the subject of these papers. In this year was built the Montauk block, the first of the modern office buildings of Chicago. The floor arches are from three to four feet in span, six inches deep, made of pure Ohio fireclay, weighing only twenty-five pounds per superficial foot. The work was done by the Wight Fireproofing Company.

Up to this time all the flat arches in Chicago had been made of tiles without interior webs, except in the screwbacks. In 1883, the contract for the new building of the Mutual Life Insurance Co., of



USED IN THE MONTAUK BLOCK, CHICAGO.

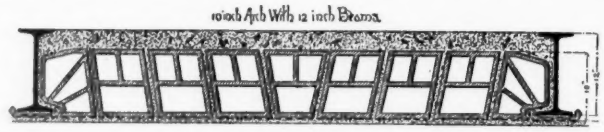
New York, on Nassau Street, New York, was awarded to the Wight Fireproofing Company of Chicago. This was the first recognition of the superiority of the western system, in the East. A nine-inch flat arch was used throughout, each tile having one vertical and one horizontal web, the thickness of fireclay when burned being only half an inch and the weight of arches thirty-three pounds per superficial foot. These were the first flat arches in which soffit tiles for the protection of the beams had ever been used in a building. The same pattern of arch was used in the Home Insurance building at Chicago. The following illustration shows one of these arches.



USED IN HOME INSURANCE BUILDING, CHICAGO.

The use of protecting soffit tiles in this style of arch having thus been practically demonstrated, it was soon taken up by other manufacturers, and is now in general use in all Chicago and western work. This was an important desideratum. The old style of flat arch such as that in the Kendall building and Montauk block (as can be seen in the illustrations) was only set about half an inch below the bottom of the beams. This space was filled with an extra thickness of the first coat of plaster. The surface of the plaster being colder under the beams than under the hollow tile, condensed the smoke in the atmosphere, and the location of the beams was soon indicated by black streaks on the ceiling. This was especially the case in cities where soft coal was used for fuel. The use of tile under the beams has not only effectually prevented this, but has furnished a reliable fireproofing for the bottoms of the beams. The form of tile best adapted for this purpose is shown in the illustration last above given. It will be seen that the tile only touches the beam at its outer edges, the center being recessed so as to leave an air space of about a quarter of an inch.

A lighter form of webbed arch, ten inches deep, and yet of great strength, is shown in the following illustration of floor construction as



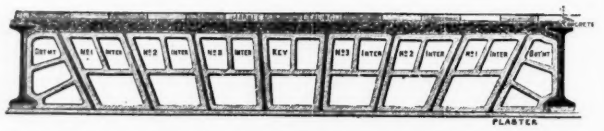
USED IN CAXTON AND PONTIAC BUILDINGS, CHICAGO.

used in the Caxton and Pontiac buildings, Chicago, both of which were designed for printing and light manufacturing.

Flat arches entirely made of porous terra cotta have been used within the last few years, the most prominent instance being that of the Auditorium building, where they were first used on a large scale. The most recent are the Monadnock and Kearsarge, the Title Guarantee, the Athletic, and the new warehouse of the Lake Shore & Michigan Southern Railroad company. They are similar in section to the fireclay arches, but the shells and webs of the tiles have about twice the thickness. The weight, however, is about the same.

It has latterly been the custom of architects to call for arches of greater depth than is necessary for strength, but for the purpose of dispensing with the weight of concrete filling. The following illustrations show the two systems of twelve-inch flat arching that have been used. These are practicable for spans of nine feet where the test weight is one thousand pounds per superficial foot.

USED BY THE WIGHT FIREPROOFING COMPANY IN THE BOARD OF TRADE AND TELEPHONE BUILDINGS, CHICAGO.



TWELVE-INCH ARCH, USED BY THE PIONEER FIREPROOF CONSTRUCTION CO. IN THE INDIANA STATE CAPITOL, INDIANAPOLIS.

(To be continued.)

Gen. William Sooy Smith's Paper on High Buildings Criticised.

GEN. WILLIAM SOOY SMITH, the distinguished civil and consulting engineer, read a paper before the engineering class of the University of Illinois, on the 31st of March, on the subject "High Buildings and their Foundations," which was published in full on the 1st instant in the Chicago *Tribune*. The publicity thus given to his elucidations and opinions on a matter which is now engrossing so much thought, has made them the subjects of much comment. The *Tribune* has interviewed some of our most experienced architects on the statements made in this paper, and printed their somewhat brief comments. Following out the same line of inquiry the following letter was addressed to one of our contributors who is well versed in this matter, both by education and experience:

P. B. Wight, Esq., Consulting Architect:

DEAR SIR,—As General Smith's recent paper on "High Buildings and their Foundations" has been published in the daily *Tribune* and commented upon by some of our leading architects, we would like you to give it your careful consideration, with a view to making an analysis of its subject matter, and to give your opinion as to whether or not the deductions therein contained are calculated to cast discredit on the many splendid structures recently erected in Chicago, of whose construction he does not seem to approve.

Yours truly,

EDITORS INLAND ARCHITECT.

The reply to the inquiry is as follows:

CHICAGO, April 6, 1892.

To the Editors Inland Architect:

General Smith's paper was in many respects a surprise to me. I might have expected some of the statements he has made from a non-resident of the city, to whom such constructions as we have been

making during the last seven years are a novelty. Theoretical men can often apply their rules to the criticism of what others have practically and successfully accomplished, with a certain degree of plausibility. But Mr. Smith is not of such. He has lived among us and been an eye-witness to the gradual development of a new system of construction during the entire time, and he has never before condemned it to my knowledge.

It is with some hesitancy that I venture to reply to your inquiries. General Smith is a friend with whom I have frequently discussed cognate subjects, and with whom I have been associated on an investigating commission to ascertain faults in construction. In these matters our opinions have always agreed. He is today the highest authority on underground constructions. His experience in tunnelling, and on the construction of deep and difficult foundations for bridgework, is perhaps greater than that of any other living American, and I believe that there is no structure that could be proposed for any site, however disadvantageous, that he could not find a way to build a sufficient foundation to sustain. All the suggestions in his paper are practicable ones, but that does not imply that they are *good expedients*. They are the opinions of an engineer constructor which can be sustained from the engineer's standpoint only. But they are not the opinions of the trained and scientific architect whose training has been supplemented by large experience.

It has been the custom of late (and to a great extent also it has been a fashion) for architects to employ constructive engineers to solve their problems. But this work has been done on the lines laid out by the architects, and has not originated with the engineers. The result has been a solution of many of the problems connected with the erection of our high buildings. It has made our high buildings safer and better than our low ones, because *all* the parts have been subjects of investigation, which was not formerly the case. General Smith, besides knowing that all this has been done, has seen some of these buildings stand long enough to be in themselves a contradiction of many of his assertions. Some have been the subjects of the contractions and expansions of six seasons, without showing any of the deteriorations to which he says they are subject. The only test to which they have not been subjected has been that of a general conflagration. But there have been instances of fires existing in several of the new fireproof buildings of Chicago, in which the fire did *all the damage that it could do under the circumstances*. I will mention for illustration, the Montauk block, the Ryerson building at Wabash avenue and Adams street, the Home Insurance building (during construction) and the Ashland block (during construction). In a recent fire which was reported to have destroyed the Arc Light & Power Company's building, the north end of the building, which had just been reconstructed and fireproofed, was saved just so far as the steel construction and fireproofing extended.

In the Minneapolis building to which he refers, that of the Tribune Company, the floors were supported by wooden joists only two inches thick, and were not deafened on top, with good cement or mortar. The tile ceilings, attached to joists too light for any good building, had been removed in many places to make room for shafting and machinery, and the first floor that gave way allowed a printing press to go through to the cellar, carrying the fire with it. But in the same city, two years later, there was a building — the Lumber Exchange — one part of which was but a makeshift in the way of fire-protection, and the other part was new and constructed with steel and the best fireclay tiles. Fire destroyed the old part, and though there was no attempt to cut off communication with the new part it was saved. This has been already described in detail in THE INLAND ARCHITECT.*

Now, with regard to some of General Smith's specific statements, I will only mention those wherein I do not agree with him. First, with regard to the compressibility of wet clay. I do not believe that the settlement caused by a pressure of 3,000 pounds per superficial foot is due in any great extent to the expressing of water. The settlement is due to the *elasticity* of wet clay which is greater than that of dry clay. If you press your finger on the gelatine pad of a hektograph you will find that the gelatine rises in a wave around your finger, and that when your finger is removed the wave disappears and the original surface is restored. I began to have serious doubts that the clay under old buildings which had been destroyed was compacted, in my first attempts to build some new buildings on old foundations after the great fire. I was told that they were well "settled," but found that they settled more than I expected when the new walls went up. This fact was, as I afterward ascertained, that the clay had *recovered its position* partially when the weight had been removed by the burning of the superstructures. And this is how I found it out. I had occasion to take down part of a very heavy building, and it happened that before doing so I had taken accurate levels of the first water table. When the wall had been taken off to near the street level, I noticed one morning that a very large stone lintel was broken. One end was on a pier whose load had been removed and the other was in a wall still standing. I sent for the surveyor at once, and we found that the piers from which the loads had been removed were ⅝ to ¾ inch higher than at the last previous leveling, while the pier which still had its load was the same as before. A distinct "bulge" upward could be seen by the eye along the top of the water table. *The clay had risen with the removal of weight.* I therefore formed the opinion that there is an elastic limit to the compression of uniform wet clay under each variation of load, and that the water is not expelled but puts the clay into a more or less elastic condition. By measurements of settlements in investigations, of which I cannot now recall the details, I found that they were about two inches with weights of 4,000 pounds per foot, that this settlement took place mainly between two thousand and four thousand pounds, and that with loads above four thousand pounds no estimate could be made of their amount. There are two buildings in this city loaded to about six thousand pounds per foot. The first is the Palmer House, the second is the City Hall, in which the computation was carefully made; but as the weight was beyond the limit of elasticity of the clay the settlement was very uneven. These data were made from twelve to seventeen years ago, and were from buildings whose foundations were about one foot above datum on the surface of the clay bed where shells are always found.

As for the dryness of the cellar under the Auditorium after it was erected, I am unable to explain it, but do not see how the compacting of the clay under the main walls could make a pit under the stage dry. If the water was squeezed out, that is the part which should have retained it. But I know why the ground under the Auditorium was wet before it was erected. There was a flowing artesian well in the cellar, which had been unchecked for twelve years, the piping of which had rusted away, and which it gave them great trouble to stop up.

General Smith, in describing how the steel-frame structures came to be adopted, says: "In view of the great height and consequent great weight of our principal buildings, it is important that materials should be used in their construction which unite in the highest degree lightness and strength with the other qualities of good building materials." Ten-story buildings, like the Montauk, the Gaff and the Counselman, had been built with brick walls on scientifically constructed foundations which stood admirably, and did not excite comment. Now, a steel-frame building sixteen stories high is about as heavy as a ten-story building with brick walls and requires about the same amount of foundation. The introduction of the steel frame made it unnecessary to do anything more to the foundation. He might as well have said that the steel frame after all only made the building more striking in appearance and added to the revenue of the owner without increasing the expense of foundation.

But here is a sentence in the paper referred to, which I would like any candid man to read attentively, and ask him by what line of argument he can be made to believe it, for certainly none is given, and I will not attempt to answer it.

> There may be steel buildings in which the fireproofing has been so well done that they will pass through an ordinary fire without such failure. But if the steel becomes even moderately heated its stiffness will be measurably diminished and the tensile strength of the upright members so reduced as to cause them to bend and yield. This is more likely to occur, as the horizontal beams and girders will at the same time expand unequally from the different degrees of temperature and throw the posts out of vertical and into buckling positions, in which case the building will be likely to come down with a crash.

The use of the words "may be" at the beginning seems to be the only warrant for such an assertion. It is, however, a direct charge against the sufficiency of the fire-protecting system that has been here brought to greater perfection than in any other city. Mr. Jenney has I think sufficiently answered this in his *Tribune* interview.

I earnestly hope that General Smith himself will find occasion to review such unsupported statements.

No difficulty has ever yet been encountered growing out of the expansion or contraction of the metals entering into the construction of Chicago buildings, occasioned by the natural change of seasons. As a matter of fact these large fireproof buildings are maintained at a very even temperature winter and summer, for all are heated by steam in the winter, and the temperature of the interior seldom if ever falls, even at night.

*See INLAND ARCHITECT for August, 1891, page 7.

The latter part of his paper is entirely devoted to an argument in favor of the use of piles, *driven down to the rock*. I do not think this has ever been done in Chicago, though many of the best foundations, which he cites, are on piles driven down to the dry clay, sometimes called "tunnel clay" for the reason that its existence above the rock surface has enabled us to establish our entire water supply system. There is no doubt that piling must be resorted to where we cannot find room for foundations bearing 3,000 pounds on a foot of clay. There is economy in it, too, if they are driven to the tunnel clay, but not if they are to go deeper. The difficulty of draining "pits" in which to drive the piles will be almost insuperable, and would be another item of expense. The main reason why this would not be a "good expedient" will be found in the difficulty of taking care of adjacent buildings, which I understand has already been experienced in the case of the German Theater. Only in case the whole business part of the city should be rebuilt again and a uniform system of pile foundations be required by law, could the methods advocated be adopted. The cellars could be deepened and deep drainage established only for the whole business part of the city at one time. This would mean a new system of sewerage for the whole, of immense expense for installation and much more for maintenance, as all the sewage would have to be lifted up to the lake or river. In San Francisco piles are used in the district east of Montgomery street. Adjacent buildings are not injured by new foundations, *for they are all built on piles*.

The Chicago system of steel foundations, which are built to yield, but in pretty well-known amount, has already given rise to another expedient now frequently put in use here (it having been first used at my suggestion in the erection of the Montauk block), to prevent injury to adjacent buildings. This is the simple one of putting them on screws where they are likely to be dragged down by new structures. It was effectively used lately in the erection of the sixteen-story Unity building. It is always possible to do this when new steel foundations are built on the clay, but not so easy when piles are used.

The danger of allowing limestone piers and columns to be used in place of steel, as suggested by General Smith, has been sufficiently commented on by others. The stone pier which he tested to 800,000 pounds, when it showed evidence of the first yielding, would probably have crushed at twice that load, or 800 tons. The area of this pier, which was nine feet high, was about equal to that of a cast-iron column fourteen inches in diameter. Such a column, if of one-inch metal, would, according to the accepted formula, crush at 1,742 tons. The safe strength of such a column, with a co-efficient of safety of five, is 345 tons. The safe strength of General Smith's limestone pier, with a co-efficient of four, would be only 200 tons. The difference in strength is manifest, and fully demonstrates the economy of the iron with regard to the room occupied.

I need not continue to quote from tables of the strength of iron and steel supports. Anyone can compare the size of General Smith's pillar of limestone two feet square and nine feet high, which he says has a safe sustaining power of 500 tons, with that of a cast-iron or rolled steel column that would do equal duty.

In conclusion, and as answering the latter part of your inquiry, I can only say that he has not succeeded in casting any discredit on the construction of our steel-framed "sky scrapers." It has been said by some architects that there is danger of cheap work and flimsy construction being embodied in them if they should fall into inexperienced and incompetent hands. It is true that a few of them are of very light construction; but not one of those erected up to the present time has yet shown evidence of failure or weakness, while not infrequently buildings of the ordinary size and old construction, built during the same time, have failed in many ways and even collapsed. General Smith's paper does not contain enough evidence to convince the owners of our high buildings that they are in any way defective. It can only be admitted that there are degrees in the value of the fire-protecting methods that have been employed. Some are better than others. This paper ought, however, to be productive of good. It should set owners and architects thinking; it should teach them to discard new "cheap and nasty" fireproofing materials which are beginning to be introduced only because they are cheap. They are used often as clubs to beat down the prices of those who furnish the best, and who should be paid for the best. I trust, therefore, that this discussion will warn grasping investors and unprincipled architects not to attempt any imposition upon the confidence of the public (who must eventually pay for such buildings) by scamped constructions and makeshift expedients for fireproofing, a tendency that has greatly been feared by those who are interested in what has already been so successfully done. Yours truly,

P. B. WIGHT.

Proposed Technological School from the Standpoint of the Architect.

THE architect who has risen from the ranks of the building mechanics almost belongs to the past. The architect graduated from the drawing board will soon follow him. The demands made upon architects are increasing so rapidly, that before long only those of high special artistic and scientific training will be able to enter the race for professional position with any hope of success. The technological and art school is, therefore, an essential part of the future of architecture as a profession. I shall endeavor to demonstrate that this school will do better work for architects and for the public if its curriculum embraces more than what the German aptly calls "Brodstudium," which term may be paraphrased as "bread and butter studies."

Buildings are erected to serve every want and emotion of cultured man. The higher and broader and more diversified the culture of a community, the greater in number, the higher in quality, the more varied in purpose will be the buildings which its architects are called upon to design. The more intimate the acquaintance of the architects of any period with every phase and development of its culture, the greater will be their power of usefulness to themselves and to their contemporaries. And this is verified by the fact that the architects of the past whose names have come down to us as epoch-making were all many-sided men, at once architects, sculptors, painters, engineers, musicians, etc.

For the culture of our day is many-sided. It has become something more than a knowledge of the "humanities." It involves a knowledge of nature and all her known phenomena and processes, and of the means employed to learn her secrets; a knowledge of man and of his history, of his aspirations and wants, of his discoveries and of the many processes and conditions which are part of human civilization. I acknowledge that no one mind can master all this, and that another "Kosmos" will never be written by any one man. But this should not discourage us, and we should not, because we cannot master all culture and all knowledge, confine our own individual culture only to such exercise of our faculties as may be necessary for barely earning our bread and butter.

The future does not belong to those who can only do, no matter how well, the tasks assigned them by others. The future belongs to those who can discover new outlets for human enterprise and activity, to those who can point out new methods of ministering to human wants, and, chiefly to him who will show man new wants and with them the means of satisfying them. The architect of the future must therefore know nature and her products and phenomena, man and his history and philosophy. His intellect must be trained not merely with book knowledge, professional and general, but he must know and understand the workings of the minds and souls of the men of his day. Particularly should he be able to commune intelligently and sympathetically with the most highly developed of his contemporaries, with those who are best able to originate or to conduct great movements and enterprises, or who are best qualified to appreciate and support the initiative in new directions of the progressive architect.

It is true that the day of the "self-made man" is not and never will be over. But the number of university men in active business life is increasing most rapidly, and even the typical "self-made man" of the day endeavors to make good the deficiencies of his early education. But the self-made architect is leaving the scene, nor will the stage much longer have room for the architect of merely technical or merely artistical training. We shall soon enter upon the reign of the architect of a culture broad and deep and of high standing among the best in his community. And we who are of an obsolescent type, we also shall profit by the advent of our successors. As these shall one by one appear upon the scene, and shall be honored and glorified by men, their glory will be reflected upon our whole profession, and we shall all rise in the esteem of the public because we are of the same profession as those whom the world deigns to honor and to magnify. Who among us is there who has not thus profited by the admiration of the public for the genius of Richardson, of Hunt, or of Stanford White? Who is not the gainer by the public consciousness of the existence in our ranks of men of the phenomenal capacity as business organizers and executive officers, as Post or Burnham?

An absence of sympathy and of the power of understanding one another's modes of thought as between architects and clients has often been, and with justice, too, made the subject of complaint by both professional and layman. And, strange to say, this failure to comprehend what are the wants and ideas of the house-building and house-using public is much more frequently the characteristic of the

school-trained architect than of the much-despised "carpenter architect," or of the architect graduated from the drawing board. I blame for the existence of this evil the segregation of the architectural student in special schools where he consorts only with his own kind, where he is trained in estrangement from the ordinary business of everyday mankind. The graduates of these schools emerge from them as specialists and technicians. And the more exhaustive their studies, the more thorough their artistic and technical training, the more contracted is the horizon of their power of observation of the wants and the thoughts and failings of their fellow men. And when a course of study in a European art school crowns the work begun in an American technological school, the result is a still wider divergence between the service which the highly trained artist and architect wishes or is able to render and that which the public wants.

The client does not employ an architect for the purpose of furnishing sites and funds for the carrying out of school problems. He is generally a very prosaic, businesslike personage who has certain very positive notions as to the generally intensely selfish and not at all altruistic purposes for which he wants his money expended. He goes to the trained architect in the hope that this much-vaunted training will be applied in the service of his sordid aims, and not for the glory of any CAUSE, or of any SCHOOL or STYLE. But years of valuable time and millions of money have been and are being wasted in bringing about an understanding between architects and clients by which the former will learn that even the best and highest forms of technical skill and artistic qualifications exist not for their own sake, that there is no reason for their being, except if they are intelligently applied to purposes and ends, acknowledged as useful and desirable by members of the client class. And by the same tedious and expensive process clients are being taught that it is their function to inform their architects fully and unreservedly as to the results they wish to attain and as to limiting conditions, financial and otherwise, as far as known to the client, but to leave to the architect, once fully instructed in these essentials, full charge of the technical and artistic solution of each problem without petty interferences. In the case of those who graduate from the workshop into architecture there is from the outset a better understanding between architect and client. Both have known each other and have had such personal intercourse and contact with each other and with each other's friends that they are in accord as to the essentials of the work upon which they are engaged.

But the school-trained architect has been so sequestered in his classroom and absorbed in his studies of how to do things that he has failed to note what are the things to be done and how those who are not of his school want them done. He is impatient with his first clients because they do not set him problems after the manner or in the words of the professor, and because they are less interested in his reminiscences and sketches of travel in foreign lands than in the conditions and wants of the particular building which they want to erect. On the other hand, these first clients, noting these peculiarities of their architect, become in their turn impatient and as contemptuous of his idealism as he of their sordid materialism. In short, they are not in touch with one another, and the consequent injury is borne not only by the architect and first client concerned in each case, but by the entire public, and by the architectural profession as a whole.

While it is impossible to prevent the harmful influences of callow youngsters in the work of any pursuit or profession, an effort should be made to minimize them and to shorten as much as possible this period of callowness. There is much to be said in favor of the method of education so boldly adopted by Mr. Antony Weller and so brilliantly illustrated by Mr. Samuel Weller; but there are many reasons why it cannot be applied to the training of young architects. But if the architect can be left to educate himself in the swim of business and affairs, let him, at least while at his studies, be thrown together with other students, non-architects, men who will be of the mass of those who erect or who occupy the buildings of his future. Our great universities will send out at least five thousand graduates this year. Their number is constantly increasing. It will ere long be ten thousand or more per annum. In the hands of these young men will be the initiative and the control of most of the better building to be done in our country in future years, and if our young architects are educated jointly with them and thus kept in touch with their future clients, much waste of effort, time and money incident to our present system will be avoided.

This is my argument for the formation of a technological school as part of the new University of Chicago. I submit it to my fellow architects and their clients, in the hope that it may be found sufficiently convincing to cause the raising of our share of the sum required for this noble purpose. DANKMAR ADLER.

The Decorative Uses of Sculpture.

IN a paper upon the decorative uses of sculpture in relation to architecture read before the Society of Arts, Mr. E. Roscoe Mullins said: "* * * While speaking of the danger of disconnecting sculpture from architecture, I should like to refer to two tendencies of the present day. One affects the art itself, and is, it appears to me, as pernicious to its free development as the old-fashioned desire to produce only something beautiful, and that is the influence upon sculpture of the sister art of painting, which necessarily follows from the importance given to the yearly exhibitions, especially at the Royal Academy, in which the preponderance of painters to sculptors is as nine to one. Truthfully modeled surfaces and the literal rendering of nature naturally have more weight with a painter than with a sculptor, for, in painting, imitation of nature cannot be carried to too great an excess, and the most thoroughly realistic work will still bear the impress of art on its canvas; but it is not so with sculpture, for a plaster cast from life will give the exact imitation without any art at all. The result of this painter-influence leads often to the neglect of design, composition and all thought of suitability to any given place. The other evil to which sculpture is always liable, if disconnected with architecture, is to become the property of the few instead of belonging to the nation as a whole.

"In treating of the art from a decorative point of view, I have purposely kept my mind on the architectural side of sculpture, as the most important form of decoration, but I would wish it understood that I apply the term decorative sculpture to the covering of any surface that needs decoration be it what it may, from the walls of palaces and municipal buildings to fire-dogs, knockers, clocks, lamps, mantel-pieces, jewelry, etc. Of course these latter can never attain to the importance of architectural sculpture for the reason above mentioned, that they must, for the most part, belong to the individual and not to the nation, but otherwise they merit as much thought and care as surfaces that are more pretentious. In this paper I cannot do more than allude to them, but the mere mention of the above list shows the enormous field open to the sculptor, and the very wide range of his art as a decorative one. Neither do I think it necessary to draw any fine line between useful and purely ornamental articles. The esthetic enjoyment of a fine knocker is, it is true, not in rapping with it, but the excellence of the artistic design and execution need not interfere with it as a useful article. I have often wondered, by the way, who buys those marvelously carved meerschaum pipes that one sees exposed in tobacconists' windows, and still more who smokes them. This is one of those instances, I think, when we may exclaim with the poet that 'Beauty unadorned in adorned the most.' I must confess I can give no reason, save as Shylock puts it, 'a lodged hate and a certain loathing' I have to the 'adorned' article in question. * * *

"To sum up the few ideas I have ventured to express: I maintain first of all that sculpture must in the main be decorative, allied chiefly to architecture, and speaking to us from its walls.

"When thus linked with architecture I would have it free within these limits, to develop the individuality of the artist, and the characteristics of the time; I should wish it to be as true to latter day life as possible, and thus be in touch with the age. If the artist has imagination, and can see through the surface of life into the hidden mystery of things, let him by all means represent it; if not, let him portray life as he sees it, and we will hope that the necessities of the conditions under which he works, that is, his architectural surroundings, will tone down any too strongly developed tendency to realism. Why, even our foe, the frock-coated gentleman, might not pose amiss, when twisted into a miserere or a gargoyle!

"Such are the few thoughts that seem to me to be important to us sculptors at the present day, and their importance to us means importance to the nation at large; for, if art is to be of any use at all, it must be in touch with the nation. As Mr. Frederic Harrison has lately said, when speaking of the great Gothic period of art, and the memorials it has left to us, 'These vast temples are the creation of generations of men, and the embodiment of entire epochs; and he who would know the Middle Ages should study in detail every carved figure, every painted window, each canopy, each relief, each portal in Amiens or Chartres, Rheims, Bourges, Lincoln or Salisbury, and he will find revealed to him more than he can read in a thousand books.'"

In the discussion of the paper which followed, Mr. Reginald Blomfield said there were one or two points he felt a little disposed to quarrel with. * * * However, the subject of the paper was sculpture in relation to architecture, and it was undoubtedly a burning question of the day, in relation both to sculpture and architecture, how the two could work together, and what was the common ground on which they could meet. What struck him in London was the enormous quantity of sculpture about and its exceeding badness. In Shaftesbury-avenue there were a great quantity of houses, and he did not think there was a single piece of good sculpture in any of those new buildings, although there was a great quantity of it. There was one building which struck his eye very prominently, plastered all over with figures modeled in terra cotta, turning themselves inside out, standing on their heads, eating their tails and doing all sorts of things; but there was no meaning in it. It might be all very pretty, but, it seemed to him, that any intelligent person who took a chisel and hacked the face of the material, would get just as valuable an effect with regard to the architecture of the building as was accomplished with all those arabesques, or whatever they might be. He had seen the same thing in another important building, whose face was simply bespattered with this sort of rubbish, though, in the same building, there was some very beautiful work by a sculptor, as opposed merely to the ornamental carving. The work

of that sculptor was very beautiful, and seemed to him to add much to the value of the building. He spoke as an architect, and did not see why architects should not resolutely set their faces against this stuff, and all merely conventional ornament; and, when they had the chance of having money spent on sculpture to concentrate their effort on one point, see that the workmen had something to say, and that the work was done by a competent man. He was afraid they did not know enough about each other. Architects did not know enough about sculpture and modeling — and consequently, did not understand sufficiently the point of view from which the sculptor went to work. On the other hand, sculptors did not know enough about architecture in the best sense. There were of course brilliant exceptions. If sculptors would occasionally give architects a hint, it would be much to their advantage; and sculptors, on the other hand, might perhaps learn a trifle or two from the architects.

Association Notes.

NEW YORK EMPLOYING PLASTERERS' ASSOCIATION.

ON April 20 the Employing Plasterers' Association, of New York, will formally open their new rooms by a dinner given at Jaeger's, on Madison avenue and Fifty-ninth street. This strong and progressive organization has for its president Mr. John McGlensey, and under his leadership has taken first rank among similar organizations, not only in New York but in the country at large.

DENVER ARCHITECTURAL SKETCH CLUB.

The past year of our club life has been a very successful one in every respect. The club is in better shape than it has ever been in all its past history. The growth of the club in membership and usefulness has been very satisfactory to its officers and members, whose every effort has been crowned with success.

The meetings, classes and lectures have been unusually well attended, especially the lectures by Mr. F. E. Kidder.

The officers for the year 1892 are as follows: President, William Cowe; vice president, J. J. Humphries; secretary, George F. Harvey; treasurer, Thomas A. Green; board of directors, the officers and J. R. Rainbow, E. R. Rice and J. Bevan Phillips.

The official paper of the club is THE INLAND ARCHITECT AND NEWS RECORD.

The membership of the club includes Mr. Burroughs, William Cowe, W. E. Fisher, Mr. Gallup, T. A. Green, D. R. Huntington, George F. Harvey, John J. Humphries, James Huston, W. F. Jones, J. Gustave Luick, W. T. Nichols, J. Bevan Phillips, H. R. Pridham, W. Pell Pulis, Fred Pishel, John A. Perry, Charles Quayle, E. R. Rice, J. R. Rainbow, H. Read, F. A. Stearns, Harlan Thomas, Harry Thomas.

Mr. F. E. Kidder is giving a course of lectures on construction, which are being very well attended, and are doing the members of the class a great deal of good. He is making the course very complete, starting with foundations and going through all the branches to the roof.

Mr. J. J. Humphries is giving a series of lectures on "Architectural Design."

Other members of the profession are to give lectures from time to time on architectural subjects.

There is also a class in modeling in clay and in free-hand drawing, under the instruction of competent men.

The list of competitions for the first six months of 1892 is as follows:

January—Porch for a country church in the thirteenth century. English gothic.

February—An entrance to a private dwelling, introducing classic columns.

March—A pavilion over a mineral spring, not to exceed 300 square feet in area. Classic.

April—A battle monument, not to exceed twenty feet in height, to a fallen commander; erected by the survivors of his regiment. Classic.

May—A music pavilion, in a public square, to accommodate twenty-five musicians. Classic.

June—Observatory tower, not to exceed fifty feet in height, to be located in a public square. Classic.

DENVER ARCHITECTURAL SKETCH CLUB.
By W. PELL PULIS.
T. A. GREENE.

EDINBURGH ARCHITECTURAL ASSOCIATION.

Mr. John James Burnet, of Glasgow, read a paper at a meeting of the Edinburgh Architectural Association, March 24, on "The Relative Position of the Architect and the Craftsman." The lecturer referred at the outset to the want of definiteness in the architect's relation to his client on the one hand and the tradesman on the other, felt by both alike, and resulting in much that was unsatisfactory to the client and discouraging to the tradesman and the architect. He believed there had never been an age when the life of the individual was more governed by the practical necessities of the day, and never before was the architectural problem more easy of enunciation. The architect of the present day was by training a master builder, with a thorough knowledge of the science of building, keenly appreciative of the possibilities of each craft, and ingenious in their application to the needs of his fellow-men; but, more than that, he was an artist. He was not a drawer of plans and a framer of contracts as such; that was only a means to the end. Although the master builder might not be an architect, the architect must be a master builder. An architect must prepare himself to act, if his work was to have any of the grander and nobler qualities of master-building, with the keenest and most detailed appreciation of the crafts his particular work was in, their co-relation, and the co-relation of the contributory arts. If the work was to be true and noble architecture it must not only be suitable for its purpose, but it must be the work of one man, executed by craftsmen and artists, each free to the development of his own art or craft, with that individual liberty of thought and action without which art in any form was impossible, leaving it only to the hand that guided him to his work and to restrain him in its execution.

New Publications.

CHICAGO, THE MARVELOUS CITY OF THE WEST; a History, an Encyclopedia and a Guide for 1892, written and compiled by John J. Flinn. Chicago: The Standard Guide Company, publishers. Cloth, $1; gold, $2.

The title under which this book is popularly known is the "Standard Guide to Chicago," and contains, aside from indexes, engravings and miscellaneous matter, six hundred and thirty-two pages of information of every description concerning Chicago and its environs, the subjects being arranged in alphabetical order and grouped under alphabetical headings in such a manner as to make reference to them an easy matter for the inexperienced. A most complete index, covering in itself about eighteen pages, adds immensely to the value of the compilation. The index is "crossed," so that the hurried or impatient searcher after facts may lose neither time nor good humor before finding what he seeks. There are between 125,000 and 150,000 subjects treated of in this volume, from the number of miles of sewers in the city to the earnings of the national banks, and from a description of the Exposition buildings to the presentation of the factory products and the wages received by the employés of the city. The work is divided into five parts. Part I gives a brief historical sketch of Chicago from the discovery of the mouth of the river, from which it takes its name, by the French missionaries, until the rebuilding of Fort Dearborn, after the massacre. Part II tells about the city of Chicago, its banking business, its commerce, its government, etc. Part III is an encyclopedia, covering every subject clear down the entire length of the alphabet from "Amusements" to "Water Transportation," and handling on the way the architecture of the city. Part IV is devoted to the World's Columbian Exposition. Part V is the Guide, which takes the visitor on thirty-one daily trips through the City of Chicago and vicinity. There are contained in this volume seventy-two elegant half-tone, full-page engravings, illustrating the mighty buildings of Chicago, scenes on the principal boulevards and thoroughfares, in the parks, in the great industrial centers and in the suburbs, with buildings of the World's Columbian Exposition. There are four maps, including a large illuminated map of Chicago, which is contained in a pocket in the back cover of the book.

GRAPHICAL ANALYSIS OF ROOF TRUSSES, by Charles E. Green. New York, John Wiley & Sons.

This is a new edition of what is now an old book. The substance of the book appeared first in the *Engineering News*, then published in Chicago; and the first edition of the book was published there in 1876. The present edition is larger and somewhat improved, and matters are given in greater detail. It is published as the first volume of a work on trussed arches. This volume is an excellent work of its kind and well adapted to the beginner in graphical statics. It confines itself to the theory. Among other good qualities, it has one, that is, it does not refer to analytical methods to any extent, to prove that the graphical calculation is correct. Of course the graphical and analytical methods of calculation serve, in architects' phraseology with regard to drawings and specifications, to explain, illustrate and supplement each other. Nevertheless, it has been heretofore too much the habit to consider that the graphical methods should be accepted as true only, or principally, because they can be proven to be so by analytical methods. We wholly dissent from such a position. Doubtless in some cases one way is more rapid and convenient than the other, but graphical calculation is amply sufficient to prove its own truth without relying upon any aid outside its own domain. However convenient and desirable it may be to do so at times, there is no more necessity for proving that the graphical calculus is correct by means of the analytical than there is to prove the analytical is correct by means of the graphical. We say this because the graphical calculus will never take its proper place until writers cease to rely upon the analytical for their demonstrations. The work is not particularly original, but is well adapted to the beginner, as has been before stated. We have noticed but one thing which calls for special comment, and that is, the calculation when the loads on trusses are neither symmetrical nor vertical. This, we believe, would admit of improvement. The original edition of this book was published at a time when there was much less known about graphical calculus than there is now, and what was known was much less diffused. It was a great help to the diffusion of this knowledge. The present edition is an improvement upon the old, and it should be in the hands of every one entering upon entering upon the study of the subject.

RETAINING WALLS FOR EARTH, by Malverd A. Howe. New York, John Wiley & Sons.

ACTUAL LATERAL PRESSURE OF EARTHWORK, by Benjamin Baker. New York, D. Van Nostrand.

The first mentioned work, like all the works of the same author that have come to the notice of the writer, is essentially a mathematical one; that is, the pressure of earth is considered principally from a mathematical standpoint. A large amount of originality and dexterity in the use of formulæ is shown. The matter of retaining walls of any importance is seldom brought under the consideration of the architect. Such works come rather to the engineer, Nevertheless, it is well for the architect to have some knowledge of the subject. There is no subject more difficult to fathom, and less amenable to mathematical treatment than that of earth pressure. The difficulty

is not in the calculations. It is in the data upon which they are based. It is almost impossible in difficult cases, to get the exact data, or at least to embrace all circumstances which, though unusual, may occur. In the second of the works mentioned, this is very clearly shown. Speaking of the London Metropolitan Railway, and some failures that occurred, notwithstanding the experiments previously made, warranted the belief that the structures that failed should have been sufficient and stable, it says: "In neither of the above cases was failure due to a deficient moment of stability in the wall, and therefore the fact of their failure does not in any way conflict with the results of the experiments previously set forth. In each case water at the back of the wall was, as usual, the active agent of mischief; not in thrusting the wall forward by hydrostatic pressure, but in softening the clay and affording a lubricant, so that the resistance was reduced to a sufficient extent to enable the otherwise innocuous lateral pressure of the earthwork to tilt and thrust forward the wall." This is fairly illustrative of the difficulty in calculating such pressure. The writer once knew of a case where retaining walls had been built to retain the earth which formed an elevated roadway, or street, across some low ground. The street endured safely for years, when it gave evidence of giving way. An examination as to the causes of failure was made, when it was found that sometime after the street had been constructed, water pipes had been placed therein. In the course of time a leak developed, the result being that the retaining walls had to be rebuilt, and made far stronger than before. The mathematical calculations on such subjects are of considerable use, but it would not do to rely upon them; and an architect having a retaining wall to build, if it be of importance, should employ not only an educated engineer, but one who has had large experience in actual practice.

ARCHITECTURAL IRON AND STEEL AND ITS APPLICATION IN THE CONSTRUCTION OF BUILDINGS, by Wm. H. Birkmire. John Wiley & Sons, New York. Price, $3.50.

The author states in his preface that he was induced to prepare this work "because of his inability to find, among the many excellent works on the Mathematics of Construction, one that could be readily adopted as a reference book, treating of the various details of iron and steel as applied in the construction and finishing of buildings." There are chapters on the properties of cast iron, wrought iron and steel, on floors and girders, on cast-iron lintels and struts and trusses, on columns, on stairways, ornamental ironwork, elevator enclosures, doors and shutters, skylights, and on miscellaneous details of all sorts, tables of properties of beams, channels, tees and angles, etc., etc. We find few things in the book that are not accessible in other treatises; but they are here brought together in convenient shape and are clearly stated. The chief criticism on the work is that, although published in 1891, it is far from being down to date in the matter of details suited to the most modern work. The work is adapted to the needs of an architect who is erecting buildings of heights of five or six stories on foundation of rock or of incompressible soil; but it is of no special service to the architect who is called on to erect on compressible soil buildings from ten to twenty stories in height, where the problems that must be solved relate to use or omission of iron in foundation, of prevention of damage to adjacent property by sinking of party or line walls, of application of cantilever construction to outer walls, of cross-bracing horizontal and vertical, of wind pressure and allowance to be made therefor, of substitution of stone or brick or tile carried independently for the several stories in place of solid masonry walls or piers carried by the foundation for all stories, of the minimum weight of materials consistent with strength. These and kindred problems are those that confront the architect of modern iron buildings, and to these this work is merely elementary, offering only those facts that were known to the architects who set themselves to the solution of the later problems. Purchased with a correct understanding of the nature and limitations of its contents the book will not be disappointing.

LES COUPOLES D' ORIENT ET D' OCCIDENT, par Alphonse Gosset. Paris Librairie Central des Beaux Arts.

This is one of the most complete works upon the cupola in all countries and all ages that has ever been published. The subject is treated from a historical, theoretical and practical point of view in a text of nearly three hundred pages, is illustrated by twenty-five fine steel plates and one hundred and ten smaller engravings in the text. An agreeable feature is that the plans are almost invariably at the same scale, permitting an unusually satisfactory means of comparison and study. According to the author, the cupola is the theme from which both civil and religious architecture of our times may yet be started upon a new and brilliant career, and this work is designed to aid in bringing together the works of different models and comparing them with each other. How faithfully this end is accomplished, may be judged from the fact, that not only are the usual examples presented, but also modern architecture with its iron domes, even as late as the exposition at Paris in 1889, is here fully treated. From Rome and Syria, the reader is brought to consider the domes of the Mohammedans and Persians, while Egypt, Armenia, Russia and Roumania also have their dome construction analyzed. In more modern times, the domes of Italy, England and France are considered, which brings the subject to the iron construction of the present day, and the work is finished with some of the greatest French modern works, notably the domes and cupolas of the great exposition of 1889. Following out the plan laid down by the author, the text contains much valuable historical information and very many valuable comparisons, but from the nature of the case there is but little that is new, the whole work consisting rather of an able and careful selection of many examples, and fully illustrating all these cases by accurate drawings. The only new idea that M. Gosset particularly endeavors to accentuate is the desirability and feasibility of this style of construction in great modern buildings of iron or steel construction, and upon this point he repeatedly speaks in the most glowing terms. The publication is certainly most valuable for any library and of the greatest interest to all architects interested in the history of the cupola its development, and its present position as a constructive feature.

GEOMETRICAL DRAWING FOR ART STUDENTS, by I. H. Morris, author of "Practical, Plane and Solid Geometry," in Longmans' Elementary Science Manuals. London: Longmans, Green & Co. Price 60 cents.

The sub-title defines the scope of the book as "embracing plane geometry and its applications, the use of scales, and the plans and elevations of solids as required in Section I of Science, Subject I." The naïve provincialism of this sub-title is pathetic. Apparently it has not occurred to the author that any reader can be so remote or so ignorant of his intentions as to ask: "Section I of Science, Subject I" of what? In the preface we read that "this little book has been prepared to meet the wants of those students who only require the geometry necessary for the art students' course"; what course and where we are not informed. Later on we find the statement that the book covers "rather more ground than is absolutely necessary for the South Kensington examination in Geometrical Drawing," from which we may jump to the quite possibly incorrect conclusion that the "course" is a course in the school of arts at South Kensington, and that the mysterious "Section I of Science, Subject I" sustains some occult relation to the curriculum in said school. We find on page 1 the extraordinary statement that a drawing board with its corners true right angles is absolutely essential. On page 3 we find this sentence: "There are endless varieties of curved lines." There are, indeed, several endless varieties, though perhaps the author intended to say "innumerable." So far this does not promise well for scientific accuracy in thought or expression. But, as a matter of fact, the book is very much better than this inauspicious start augurs. The treatise is not overburdened with superfluous matter, and, while it assumes its propositions, it gives directions sufficiently explicit to enable the student to solve its various problems accurately. The examples are numerous and practical, and the book is better suited to its purpose than anything of the sort that we now recall.

Our Illustrations.

St. Elizabeth church, Chicago; James J. Egan, architect.

Hotel Mesa, Pueblo, Colorado; Lang & Pugh, architects, Denver, Colorado.

House for Mrs. C. J. Judd, Dwight, Illinois; A. W. Cole, architect, Chicago.

Confederate Soldiers' Home, Nashville, Tennessee; William C. Smith, architect.

House for J. G. Moore, Winter Harbor, Maine; W. W. Kent, architect, New York.

Living hall and stairs — house for J. G. Moore, W. W. Kent, architect, New York.

Congregational church at Ashland, Ohio; Coburn & Barnum, architects, Cleveland, Ohio.

Wholesale store building for the estate of M. A. Meyer, Chicago; Adler & Sullivan, architects.

Office building for Puritan Realty Company, St. Louis, Missouri; L. C. & William M. Bulkley, architects.

Chemistry laboratory for the Case School of Applied Science, Cleveland, Ohio; Coburn & Barnum, architects.

Warehouse and store building for Charles L. Willoughby, 1243 Wabash avenue, Chicago; Treat & Foltz, architects.

Protestant Orphan Asylum building, erected corner Jefferson avenue and Adair street, Detroit, Michigan; John Scott & Co., architects.

Denver Architectural Sketch Club competition for a stable for a wayside inn. Stable to be large enough for twenty horses and ten vehicles, including shed, etc. First place, W. Pell Pulis; mentioned design, J. G. Link; remaining design by D. R. Huntington.

Office building for the Central Union Depot and Railway Company, Cincinnati, Ohio; G. W. E. Field, architect. The building is 70 by 185 feet, and stands on the south side of Third street, north of the train sheds of the Central Union Depot Company; is occupied entirely by the general offices of the Cleveland, Cincinnati, Chicago & St. Louis Railway and Chesapeake & Ohio Railway; cost $240,000.

Photogravure Plate. Residence of Perry Trumbull, Edgewater, Chicago; J. L. Silsbee, architect. A Chicago residence; Burnham & Root, architects.

PHOTOGRAVURE PLATES.

(*Issued only to subscribers for the Photogravure edition.*)

Residence of Francis T. Simmons, Gordon terrace, Buena Park, Illinois; Jennie & Mundie, architects, Chicago.

Residence of E. Brown, Evanston, Illinois; Frederick Baumann and J. K. Cady, architects, Chicago. Three full-page plates are given, showing the following views: exterior view, view in hall, view in living room.

Statuary groups for fountain for the World's Columbian Exposition, Chicago, Frederick MacMonnies, sculptor. The fountain, which is being executed in bronze at Paris, will take the shape of a triumphal barge, guided by Time, heralded by Fame, and rowed by eight standing figures, representing on one side the arts, and on the other science, industry, agriculture and commerce. This barge is preceded by eight sea horses, forming a semi-circle in front, and mounted by eight young men as outriders, who represent modern commerce. The smallest figure is some twelve feet in height and the largest twenty feet. The design of the basin is circular — 150 feet in diameter — and is flanked on each side by columns 50 feet high, surmounted by eagles. At night the fountain will be illuminated by electricity. Three full page plates are given.

Mosaics.

ARCHITECT FRANK IRVING COOPER, of Pittsburgh, is now located at 64 Fourth avenue in that city.

PLAYING CARDS.—You can obtain a pack of best quality playing cards by sending 15 cents in postage to P. S. Eustis, General Passenger Agent Chicago, Burlington & Quincy Railroad, Chicago, Illinois.

MAP OF THE UNITED STATES.—A large, handsome map of the United States, mounted and suitable for office or home use, is issued by the Burlington Route. Copies will be mailed to any address on receipt of 12 cents in postage by P. S. Eustis, General Passenger Agent Chicago, Burlington & Quincy Railroad, Chicago, Illinois.

AROUND THE WORLD.—Europe, Egypt, India, China and Japan, $610. The Canadian Pacific railway having met with so much success in its around the world tours, has just completed arrangements with the Peninsular & Oriental Steam Navigation company and the fast steamship lines on the Atlantic Ocean to continue same. Above rate will apply in either direction going via the Atlantic or the Pacific ocean, and for a slight additional cost a variation can be made in the route to include India, Egypt and Continental Europe. For further particulars apply to J. Francis Lee, D. F. & P. A., 232 South Clark street, Chicago, Illinois.

THE Burns Memorial and Monument Association of Chicago propose to erect a monument to the Scotch poet in one of the parks and invite competitive designs. The amount to be expended is $12,000, and the committee suggests a figure and pedestal with spaces for panels to be added subsequently. $200 will be paid to the designer of that accepted, and $100 for that second in merit. As almost one-third of the best draftsmen in Chicago are Scotch, and the subject is an attractive one, the most notable monument to Burns erected in the United States should be placed in Chicago by the Burns Memorial Association.

MR. BARR FERREE, whose article upon "Architecture and the Allied Arts" is concluded in this number, has made a mark in the history of architectural writing and ranks among those who have given to the architects of the country information that is invaluable. Mr. Ferree, who was formerly professor of architecture in the University of Pennsylvania, has now taken charge of the department of architecture in the *Engineering Magazine*, of New York, and that valuable exponent of engineering and architectural methods and practices will become still more valuable to the architectural practitioner who may read its pages month by month.

A BRIGHT, newsy and altogether well gotten up and edited weekly is the new *Builder and Trader*, published at Chicago. It contains portraits of W. H. Alsip, president of the Builders' and Traders' Exchange, and of Joseph Downey, president of the new masons' organization, called the Chicago Masons' and Builders' Association. The journal is endorsed by Mr. Alsip and by the Chicago Exchange, and in the field which it hopes to fill, that of an exponent of the building trade interest throughout the country, it has a brilliant future, and should meet with the hearty support of builders generally. It is published at 159 La Salle Street, Chicago, at an annual subscription of $5.

SCOTCH-IRISH CONGRESS.—The Queen & Crescent Route and East Tennessee, Virginia & Georgia Railway will sell tickets at reduced rates on April 26 and 27 to Atlanta, Georgia, and return, account Scotch-Irish Congress, on April 28. This is the only line running solid vestibuled trains through without change from Cincinnati to Atlanta, and is 116 miles the shortest and four hours the quickest. Trains leave Grand Central depot, Cincinnati, passing through the blue grass region of Kentucky, over High Bridge, along the Emory River, with its magnificent scenery, and in full view of Lookout Mountain. For further information, tickets, sleeping-car reservations, etc., call on any ticket agent or address, D. G. Edwards, General Passenger Agent, Cincinnati, Ohio.

THE INLAND ARCHITECT finds much pleasure in welcoming a new contemporary in the specialists' arena, which made its appearance on the birth of the present year, namely, the *Brick Builder*, published by the Brickbuilder Publishing Company, 4 Liberty Square, Boston, Massachusetts, at the subscription price of $2.50 a year. It is ably edited and the scope of its field of usefulness is unmistakably comprehended by the management, who are alive to the present advancements in architectural ceramics and the prophetic possibilities of the same. There is no doubt but the thoughtful and enterprising publishers will reap an abundant harvest from tilling this heretofore neglected field, and they will hereby accept THE INLAND ARCHITECT'S best wishes for such a deserved result.

IN 1884 Professor Treu published a pamphlet entitled, "Sollen wir unsere Statuen bemalen?" (Ought we to paint our statues?) which made a profound impression on the artistic world; and the perusal of this led me to give the matter careful attention, says Edward Robinson in an interesting article entitled, "Did the Greeks Paint Their Sculptures?" in the *Century* for April. Being in Europe at the time, I had excellent opportunities for investigation; and starting absolutely without bias or preconception, I made careful notes of every bit of evidence, pro and con, which I came upon during a trip through Greece and Italy, and also in the larger northern museums; as a result of which I became convinced of the following points: (1) That from the beginning of their art of sculpture, through its whole course, it was the custom of the Greeks, and following them the Romans, to paint their marble statues and reliefs. (2) That this application of color was not restricted to certain details, but covered the entire surface of the marble, both nude parts and draperies, with the possible exception of portions where the natural color of the marble served its purpose in the general scheme. (3) That the colors used were not merely tints, but strong body-colors, the aim of the artist being to imitate nature in the matter of color just so far as the sculpture itself did in that of form; that is, with a conventional idealization or generalization by which the unpleasant features of realism were avoided.

CYCLOPEDIA OF THE MANUFACTURES AND PRODUCTS OF THE UNITED STATES, published by the Seeger & Guernsey company, New York, price $10. This is a volume of nearly four thousand pages of closely printed matter, yet in very readable type, in which, in a classified form, are given the names and locations of all the principal manufacturers and producers of all the varied material that enters into the general traffic and consumption of the country. As a book of reference it is invaluable, as no matter what a party may want that is the product of labor, outside of the agricultural domain, and is at a loss as to the source where it may be obtained, it is herein clearly disclosed. It certainly has cost a large expenditure of money and time to gather and verify so much and so varied information, and the publishers are to be congratulated on the successful carrying out of their happy-thought scheme.

A MOVEMENT has been initiated by Mr. Nahum Barnet, architect, of Melbourne, to arrange for a visit of a party of artisans of various crafts to the Chicago exhibition. The selection will be made from young Victorian workingmen, probably those in the last year of their apprenticeship, and it is considered that a personal inspection of the new modes of building adopted in the large cities of the United States, and of new inventions connected with the science of building, will prove of immense advantage to the men, who will have an opportunity, through the medium of reports or otherwise, of imparting what they have learnt during their visit to their fellow workmen on their return. Mr. Barnet's proposal has been warmly received by the Trades-hall council, who have invited delegates from the Working Men's college, the Victorian Institute of Architects, and the Builders and Contractors' Association to meet at the Trades-hall on Monday to discuss ways and means of carrying Mr. Barnet's proposal to a successful issue.

Building Outlook.

OFFICE OF THE INLAND ARCHITECT,
CHICAGO, Ill., April 5, 1892.

Architects are crowded with work in nearly all of the larger cities, but a great deal of it is relatively unimportant. While there is considerable work in hand, there is a holding back by promoters and others of many large enterprises. The building and construction requirements for 1892 have not yet been clearly developed. The financial stringency and lack of confidence have much to do with the delay. House builders are slow to begin work, and large operators who entered zealously upon their work last year are now proceeding more cautiously. Railroad requirements are also held back, and the building of manufacturing establishments and shops is not being entered upon with quite as much earnestness as has been seen in former years. All this, however, does not signify very much. Plans have been perfected for the expenditure of as much capital in building operations this year as last; there is not the same need of additional capacity, and shop, house, office and warehouse room as last year, at least the necessity for as much of an increase is not as apparent now as then. The condition of the money market is not as favorable to manufacturers and general construction activity as it might be. Collections are difficult. Production is restricted to market requirements. The accumulation of stocks of all kinds is avoided. The contracting for material is delayed as long as possible. Manufacturers of building material are very careful that they do not overstep what they think is a safe limit; at the same time there is confidence in all directions that the year will be a good one, and there are no grounds for questioning this confidence. The country is gaining in all directions. The returns to capital, while not heavy, are fair, and the inducements to push forward are sufficient to engage all anxious capital. Labor is muttering here and there, but the conditions are not favorable for a general spring revolt. While as favorable report cannot be made this month as last, it is reasonable to assume that there will be no serious depression in business. The low prices prevailing in all directions are favorable to enlarged outlays. The first symptom of recuperation and hardening prices will bring out a great multitude of hesitating people who will hurry to secure supplies before an actual advance takes place.

Synopsis of Building News.

Architects are invited to furnish for publication in this department monthly or occasional reports of their new work before the letting of contracts. Reports of buildings costing less than $5,000 are not published.

Chicago, Ill.—Architects Holabird & Roche: For Hulburd Dunlevy, south-west corner of Lake and Clark streets, a three-story addition and remodeling of Ogden building. The building immediately west on Lake street will be torn down and a seven-story structure erected in its place, to be connected with the Ogden building; the construction will be fireproofed and finished up in the best manner possible, with marble and tile work, electric light, steam heat, two Standard elevators, etc. These architects have moved into a very handsome and extensive suite of offices, comprising the entire wing looking east on the top floor of the Monadnock building.

Architects Wilson & Marble: For B. C. Haulk, at 1841 Wabash avenue, a six-story apartment house; to be of stone front and have all the best of sanitary and other improvements. For O. B. Gorin, at Decatur, Illinois, a two-story residence of frame with stone basement; cost $10,000. For Milton Johnson, at Decatur, a two-story frame residence; cost $8,500.

Architects Bauer & Hill: For St. Joseph's Hospital, at Fort Wayne, a four-story addition and remodeling old building; to be of pressed brick and stone, with gravel roof; cost about $40,000. For Stettauer Bros., southwest corner of Madison and Franklin streets, alterations and additions and dividing it up into retail stores, the upper part being made into lofts; they will put in new plumbing, heating and all the conveniences; the cost will be about $15,000. The same architects also made drawings for remodeling and alterations of building situate on the southwest corner of State and Adams, for Siegel & Bros.; they will

put in new steam heating, elevators, electric light, new fronts in first and second stories. They are also preparing plans for the Bavarian restaurant to be erected at the World's Fair, for Morganthal Bros.; it will be a handsomely designed structure of staff, glass and iron, with tower 120 feet high. They also made plans for remodeling building at 88 and 90 La Salle street.

Architects Flanders & Zimmerman: For Messrs. Harms & Levering, at Petersburg, Illinois, a three-story and basement store and flat building; size 102 by 100 feet; cost $25,000. For John O'Malley, on State street, corner of Forty-sixth, seven four-story flat buildings; to have a frontage of 140 feet; cost $60,000; pressed brick and cut stone trimmings with copper bays and cornice, marble and tile work and all the sanitary conveniences. They also planned a three-story and basement school; size 130 by 110 feet; to be erected at Washington Heights; pressed brick and stone; cost $55,000.

Architect Robert Rae: For G. E. Harris, on Madison avenue, a three-story residence; 21 by 67 feet in size; to cost $10,000. The first story and basement will be of stone and above of Michigan sand pressed brick, rockfaced.

Architect Robert C. Berlin: For W. H. Burcky, on State and Sixty-first streets; a three-story and basement store and flat building, 50 by 68 feet; to cost $15,000.

Architect R. G. Pentecost: For M. Livingston, at 3406 South Park avenue; a three-story flat building; 25 by 70 feet; to cost $9,000. To be of Colorado redstone front, hardwood interior finish, etc. For Dr. A. P. Sawyer, on the northwest corner of Sacramento avenue and Fulton street; a one-story laboratory; 40 by 145 feet in size; to cost $10,000.

Architect J. L. Merriam: For S. M. Sheldon, at 4553 Wabash avenue; a three-story and basement flat building; 25 by 80 feet; to be of buff Bedford stone front; cost $12,000. For Charles Carlson, at 528 Forty-sixth street; a three-story flat building; of buff pressed brick front; to cost $10,000. For J. N. Cunning, on Lawndale avenue between Twenty-fourth and Twenty-fifth streets; two two-story flat buildings; of pressed brick and stone fronts. For William Truin, on Ogden avenue; a three-story store and flat building; to have a stone front, gravel roof, galvanized iron bays and cornice; cost $8,000.

Architect T. C. Goudy: For H. D. Overdier, at Rogers Park; a two-story and basement, frame residence; to have all sanitary improvements, furnace, etc. For Bruno H. Weller, at Rogers Park; a two-story and basement residence; frame, stone basement, etc. For H. D. Overdier, at Rogers Park; a two-story and basement residence; to be rockfaced stone basement walls, and above of frame; to have hardwood interior finish, first-class plumbing, steam heat, etc. Also making plans for two-story frame house for Mrs. White at Rogers Park. Also taking figures on a two-story store and flat building; to be built at Forty-third street and Madison avenue, for James Fitzgerald.

Architect Arthur G. Morey: For G. H. Curtis, a seven-story hotel; 86 by 125 feet in size; to be erected on Roslyn place, fronting Lincoln park. It will have two fronts of stone, the interior being finished in hardwoods, marble, tile and mosaic work, with electric light, steam heat, elevators, etc. In connection with the hotel will be a mineral spring fitted up in a very attractive manner. The same architect made drawings for a three-story residence; to be built on St. James place. It will have a stone front, stained, plate and beveled glass, electric light, etc. For Dr. C. A. David, at Rogers Park; two two-story frame residences; to have brick and stone basement, sanitary improvements, furnaces, etc.

Architect J. N. Tilton is preparing plans for an Episcopal church, to be erected at Austin. It will be constructed of Bedford stone, have a red tile roof, cypress interior finish, stained glass windows, probably electric light; have seating capacity for four hundred persons. The size will be 50 by 100 feet and the cost $25,000. He also made plans for a pretty two-story basement and attic residence; to be erected at La Grange, for P. S. Eustis. To be of stone first story and above of frame, all the improvements, electric light, furnace, etc.; cost $7,000.

Architect D. A. Lapointe: For Augusta Mueller, on Emerson avenue near Hoyne, a two-story stone front flat building. For the same owner on Ogden avenue near Taylor street, a three-story store and flat building, 48 by 65 feet; to be of stone front, have steel store fronts, gravel roof, sanitary plumbing, steam heat; cost $15,000. For S. Greenbaum, on Washington boulevard, a four-story apartment house; to have a frontage of 209 feet, and cost about $100,000; to be of pressed brick and stone, with gravel roof, steam heat, electric light, marble and tile work and all the improvements.

Architect George Beaumont: For W. H. Chadwick, on the corner of Belmont and Evanston avenues, two three-story residences; to have stone fronts, tile and gravel roofs, hardwood finish, electric light, steam heating; cost, $18,000. For W. H. Butterfield, on Michigan avenue court south of Twenty-second street, a one-story storage, 70 by 75 feet; to be of brick. For the same owner, corner of Twenty-second and Michigan avenue, a six-story store and office building, 85 by 62 feet in size; to cost about $70,000; pressed brick and stone front, gravel roof, steam heat, elevators, electric light, marble tile and mosaic work, and the best of sanitary plumbing.

Architects Stiles & Stone: For M. S. Bradley, on Washington avenue near Fifty-third street, a four-story and basement apartment house, 41 by 75 feet in size; to be of stone front, have gravel roof, steam heat, electric light, marble entrance, etc.; cost $20,000. For Mrs. S. B. Reed, on Monroe avenue near Fifty-fourth street, two two-story and basement residences; to have pressed brick and stone fronts; cost $10,000. For H. W. Wolseley, on Madison avenue near Fifty-fourth street, a two-story residence; to be of pressed brick and stone front, with slate roof; cost $6,000.

Architect W. S. Burrows: For J. G. Horne, at 2627 State street, a four-story and basement store and flat building; to be of pressed brick and stone; cost $12,000.

Architect W. L. Carroll: For Mrs. Barnes, at 32 College place, a two-story flat building; of stone front, gravel roof, hardwood finish, sanitary plumbing, steam heat, etc.

Architect Alfred Smith: For F. H. Brown, at 3731 to 3733 Langley avenue, a four-story flat building, 40 by 70 feet; to cost about $20,000; to be of stone for the first two stories, and above of pressed brick and stone, gravel roof, all sanitary improvements, steam heat, electric light, etc. For Mrs. Semyard, at 1132 Wilcox avenue, a three-story and basement flat building, of pressed brick and stone front.

Architect J. E. O. Pridmore: For Mrs. L. A. Clark, a three-story and basement residence; to have a stone front, hardwood interior, steam heat and all the improvements; to be erected on Oakenwald avenue near Forty-sixth street.

Architect W. J. Van Keuren: For J. E. Decker, at Austin, a three-story store and flat building of pressed brick and stone front, electric light, etc.; cost $15,000. For Messrs. Pellet & Herrick, at Oak Park, a two-story flat building, to have a front of pressed brick and stone.

Architect Oscar Cobb: For A. B. Yeomans and H. Choate, at Winona, Minnesota, a three-story theater, 75 by 120; to cost $50,000; pressed brick and stone, tin roof, electric light, steam heat, etc.; the seating capacity will be 1,200. For Judge Charles V. Bareteer, at Wausau, Wisconsin, a two-story building, first story to be stores and above Masonic temple; pressed brick and stone front, gravel roof, electric light, steam heat; size 63 by 84 feet; cost about $20,000. For James McCrossen, at Wausau, a two-story business block, 40 by 60, to be of pressed brick and stone, have gravel roof, steam heat, electric light, etc.

Architect W. R. Gibb: For Mrs. A. Charles, at 840 Congress street, a three-story and basement flat building, of pressed brick and stone front, gravel roof, etc. For M. Chatroop, on Wieland street, near North avenue, a three-story and basement flat building; to have a front of pressed brick and stone, gravel roof, sanitary plumbing, etc.

Architect H. B. Wheelock: For Charles S. Hurley, on Evans avenue, near Forty-eighth street, a two-story flat building, of stone front. For Prof. J. Slocum, at Hyde Park, a two-story residence of frame, with stone basement, hardwood interior; cost $7,000.

Architects Hetherington & Warner: For S. Blain, on Oakenwald avenue, near Forty-fifth street, a three-story double flat building; to have a stone front, gravel roof, steam heat, hardwood finish, electric light, bells, speaking tubes, etc.; cost $20,000.

Architect J. M. Van Osdell: For Mr. McShane, of Omaha, remodeling and additions to Exchange building on Van Buren street; the large halls in the court on the south will be ripped out and another building, 40 by 50 feet in size, seven stories and basement, made to connect with the present building, leaving a court 30 by 50 feet; the present attic story on the old part will be remodeled and a full story made out of it; the elevators will be removed from their present position and placed over in the Van Buren street entrance; the cost of this improvement will be $50,000. For Charles A. Street, at La Grange, a two-story and attic artistic cottage, cut stone basement, hardwood finish, electric light, furnace, etc. He is also preparing plans for the Centennial Baptist Church, to be erected on the southeast corner of Jackson boulevard and Lincoln street; to be constructed of Indiana brownstone all round with slate roof, red oak finish, mosaic vestibules, beautiful stained glass windows, steam heat, etc.

Architects Hallstrom & Peterson: For Andrew Hultin, on Wellington street, near Halsted, a two-story flat building of pressed brick and stone, all the sanitary improvements, hardwood trimmings, two furnaces, etc. For John A. Modin, corner of Belmont and Sheffield avenues, a block of five four-story stores and flats; to cost $40,000; pressed brick and stone fronts, galvanized iron bays, the latest sanitary improvements; the building will have a frontage of 125 feet. For F. Peterson, at 57 Locust street, a four-story flat building, 25 by 90 feet; to cost $13,000; the front will be of pressed brick and stone, with galvanized iron bays and cornices; all the sanitary improvements will be put in.

Architect C. H. McAfee: For the Douglas Park Club, a three-story clubhouse, 40 by 100 feet in size, of pressed brick and stone front, etc. For C. F. Drake, on Paulina and Sixty-third street, a two-story factory; 49 by 180 feet; of pressed brick and iron front.

Architects Ostling Bros.: For Mr. Skoglof, at 1732 Fletcher street, a three-story and basement flat building; to have a stone front, and cost $14,000. For H. Henderson, on Mayfair street, a two-story flat building of stone front; to cost $8,000. For C. Johnson, at 104 Townsend street, a four-story flat building, of stone front, gravel roof, slate mansard, etc.; to cost $16,000.

Architect L. G. Hallberg: For J. V. Clark, at 69 to 71 Pine street, a three-story addition; to cost $15,000. For R. S. Edler at 111, 113 and 115 Sedgwick street, a five-story apartment house, 75 by 123 feet in size; to cost $75,000. The first story will be of stone, and above of pressed brick and stone.

Architect F. Foehringer: For R. Gannon, on Van Buren street, near Center avenue, a four-story store and flat building; to have a stone front, gravel roof, etc.; cost $10,000. For Henry Rumsfeld, corner of Sedgwick and Oak streets, raising and remodeling building; and on the same property a five-story and basement store and flat building; of pressed brick and stone; the cost of the whole improvement being $25,000.

Architects Patton & Fisher: For J. H. Howard, on Kimbark avenue, a two-story residence; first story to be of stone, second red tile, and roof of Spanish tile; cost $14,000. For W. F. Furbeck, at Oak Park, a two-story residence; to be constructed of stone and frame; cost $18,000. For P. D. Armour, on Thirty-third and Dearborn streets, one-story addition to flat building; to cost about $80,000. They have also finished drawings for a two-story high school to be erected at Muskegon, Michigan; to be of pressed brick and stone; cost $50,000.

Architect Henry Ives Cobb: For Messrs. Huck & Young, corner of Harrison street, Blue Island avenue and Halsted street, a seven-story store and office building; to have two fronts 125 and 144 feet; it will be constructed of pressed brick and terra cotta; will be of fireproof construction; cost about $200,000. Also making plans for the Indiana State building to be erected at the World's Fair; it will have stone towers and the rest of the building will be of staff; cost $50,000.

NOTE.—Henry Ives Cobb will remove to the Chicago Title and Trust Company's building on Washington street, near Clark. He has leased the whole of the sixteenth story and will have it arranged in the most convenient way to suit his extensive business.

Architects Kley & Lang: For Henry Hoepe, corner of Robey and Thomas streets, a double three-story and basement flat building, of buff Bedford stone front, with galvanized iron bays, stained and plate glass and all improvements; cost $15,000. For Richard Ealer, on Fullerton avenue near California avenue, a three-story store and flat building, of St. Louis pressed brick and stone. For J. W. Marwood, at Kolzi, Ill., a frame store and flat building, 26 by 80, to cost $6,000. For Henry Dreves, on Division street near Western avenue, a three-story store and flat building, of St. Louis pressed brick front. For Woerner Spengler, on Ellis court, a two-story basement and attic residence, to cost about $10,000; the front will be of St. Louis pressed brick with Connecticut brownstone trimmings, slate roof, etc. For the same owner, corner of North and Hoyne avenues, a three-story store and flat building, of pressed brick and stone; to cost $13,000. For G. Mengerson, on California and Lexington avenues, a three-story store and flat building, of buff Bedford stone front, galvanized iron bays and tower, sanitary plumbing; cost $14,000.

Architects Adler & Sullivan have completed drawings for the seven-story warehouse to be erected on the southwest corner of Van Buren and Franklin streets, for the M. A. Meyer estate; it will be built of terra cotta; have elevators, electric light, etc.; size 120 by 168 feet.

Architect S. S. Beman has just let the contract for the foundations for the North-Western Pharmaceutical and Medical College, to be erected on Dearborn street between Twenty-fourth and Twenty-fifth streets; it will be a five-story structure, 106 by 106 feet in size; of stone, terra cotta and pressed brick, gravel roof, steam heat, electric light, have all the modern conveniences and cost about $100,000.

Architect Simeon B. Eisendrath: For L. Endres, on the northwest corner of Fifty-sixth street and Drexel avenue, a three-story apartment house, 48 by 65 feet, to cost $13,000; the front will be of buff Bedford stone and the side of pressed brick, the interior being finished in cypress. For B. D. Eisendrath & Co., at Racine, Wisconsin, a five-story factory, 40 by 200 feet in size; a one-story building 150 by 200 feet, to be of brick and cost about $30,000. The same architect is getting out drawings for a terra cotta works, main building to be 50 by 150 feet in size, three stories high, engine and boiler house, etc., to be erected at Ottawa, Illinois.

Architects Thomas & Rapp: For Wilkinson estate, corner of Twenty-first street and Wabash avenue, a four-story store and flat building, 73 by 170 feet in size, to cost $70,000; to be of pressed brick and stone front, have steam heat, electric light and the best of modern and sanitary improvements. For F. F. Stevens, on Forty-seventh street near Evans avenue, a four-story store and flat building, 50 by 65 feet; to be of pressed brick and stone front and cost $18,000. For the McKey estate, on State street near Twentieth street, a four-story store and flat building, 72 by 87 feet in size; to be constructed of pressed brick and stone, have gravel roof, etc., and cost $30,000.

Architect Francis J. Norton: For John H. Park, at Forty-third street and Wabash avenue, a three-story flat building, to have a stone front and cost $10,000.

Architect Clinton J. Warren: For P. D. Armour, Jr., a three-story residence on the southwest corner of Michigan avenue and Thirty-seventh street; to be of Connecticut brownstone all round, have red tile roof, electric light, hot water heating; cost $150,000. Also making plans for a ten-story hotel, 114 by 172 feet in size; to be erected corner of Michigan avenue and Congress street, for William Fitzgerald; to be of pressed brick, stone, terra cotta, have steam heat, elevators, electric light, etc.; cost about $700,000.

Architects I. K. and A. B. Pond will remove into a commodious suite of offices on the thirteenth floor of the Venetian building.

Architect Francis M. Whitehouse: For H. C. Taylor, on State street near Lincoln park, a three-story residence; to cost $100,000. For the same owner, a block of four-story residences, of pressed brick and Bedford stone, on Prairie avenue near Twenty-second street. For S. Leonard Boyce, on Grand boulevard near Thirty-seventh street, a three-story and high roof residence, 40 by 65 feet, standing in 100 feet of ground; it is early English Gothic in type, and of very handsome design; also two-story stone stable to match. For M. S. Pierce, a three-story apartment house, 30 by 70 feet; to be of stone front, have hardwood finish, etc.; to be erected on Thirty-seventh street and South Park avenue. For Dudley Winston, at Lake Forest, a two-story and basement residence; it will be located on the side of a ravine, the two wings of the house standing at right angles with a semi-circular porch at junction of angles, with tall wooden columns extending to the top of the second story. He is also completing interior of a large stone residence at Oconomowoc, Wisconsin, for George Bullen. For Hobart Chatfield Taylor, on the northwest corner of State and North avenue, a three-story residence with basement and attic, house and stable covering 130 by 50 feet of ground; contracts are now being let and work will be commenced immediately.

Architect Francis J. Norton is letting contracts for a three-story residence, to be built at Forty-third and Wabash avenue, for Mr. Parks; the exterior will consist of Bedford stone, plate glass, cresting, copper cornice, composition roof, and a large front veranda; the interior will be furnished in oak, oil and plate glass, stationary mirrors, steam heat, and all sanitary and electric appliances;

estimated cost $8,000. Also for the Homestead Investment Company, plans for fifteen residences, to be erected at Grand Crossing; they will vary in plans and designs, and range in prices from $2,000 to $4,000, and all sanitary and modern improvements. For Mr. Greenwood, a stone residence building, 25 by 80 feet, to be erected at Forty-seventh and Ashland avenue; it will be built of iron, stone and hardwood, gas, bath and all modern improvements; estimated cost $6,000. For Mr. Hisgen, a double stone and apartment building, 40 by 80 feet, to be built at Sixty-ninth and Wentworth avenue; it will have iron, stone, copper, and plate-glass front, with composition roof; interior will be furnished in hardwood, oil finish, stationary mirrors, and all electric, sanitary and modern improvements; estimated cost $12,000.

Architect A. Druiding has the following plans of Catholic churches on the boards: St. Augustine's Church, Austin, Mower County, Minnesota, Rev. D. Sullivan, pastor; the church to be Gothic in style, to be 74 by 170 feet; two towers, one having a height of 170 feet, the other a height of 126 feet; to be built of local brick with stone trimming; the interior will have a richly groined ceiling, partly supported by fourteen columns; the building to cost $60,000. St. Joseph's Church, Lucinda, Clarion County, Pennsylvania, Rev. Edward Hasse, pastor; is to be 148 by 51 feet, with a transept 66 feet wide, tower in center of front 140 feet high; built in brick with stone trimming; to cost $25,000. Catholic church, Algona, Kossuth County, Iowa, Rev. Mr. Nichols, pastor; to be a frame church, 45 by 105 feet, with tower 105 feet high; to cost $18,000. St. Michael's Church, Wheaton, DuPage County, Illinois, Rev. W. de la Porte, pastor; will be 50 by 100 feet, with tower on corner to be 90 feet high; the exterior of church will be of Bedford stone; the interior will be finished in oak; the church will be in the Romanesque style of architecture.

Cincinnati, O.—Reported by Lawrence Mendenhall: The prospects, so apparently flattering, existing at the time of my last report, have changed. Every one thought that the questions of time and wages were settled for the season. The carpenters have proved to be balky horses, and unless an understanding is arrived at, a strike with its disastrous results is a certainty. The contractors have made a fair and reasonable proposition of thirty cents per hour, but this has been rejected. Shakespeare aptly says in "A Winter's Tale" as regards obstinacy:

> "You may as well,
> Forbid the sea to obey the moon,
> As, or by oath, remove or counsel shake
> The fabric of his folly."

The Congress of Builders has the matter in hand, and will try to settle the knotty question.

Architect J. W. McLaughlin has prepared plans for Mr. Timothy Hayes, for a theater and cafe; size 90 by 100, four stories high; materials: pressed brick, stone trimmings, gas, plumbing, stained glass, tiling, scenery, chairs, tin roof, etc.; cost $30,000.

Architect A. O. Elzner has the plans in hand for a Jewish club house; materials: pressed brick, terra cotta, hardwood, tiling, fireproofing, lavatories, plumbing, mantels, furnace, etc.; cost $50,000.

Architects Crapsey & Brown have drawn plans for I. O. O. F. hall at Ironton, Ohio; materials: pressed brick, iron, slate roof, steam heat, scenery, stained glass, electric lighting; cost $20,000.

Architect J. J. Rueckert has prepared plans for a tannery for C. Bardes' Sons; materials: brick, gas, plumbing, iron, tin roof, steam heat; cost $10,000.

Architects Bofinger & Hopkins report: For Mr. E. J. Krehbiel, a residence; materials: frame, slate roof, gas, plumbing, stained glass, grates, mantels, furnace, etc.; cost $4,500.

Architect J. G. Steinkamp has prepared plans for a flat building for Hon. Edward A. Ferguson; materials: pressed brick, stone trimmings, tin roof, blinds, gas fixtures, grates, wood mantels, plumbing, etc.; cost $15,000.

Architect Adam J. Bart has drawn plans for Mr. Benjamin Knopp; materials: frame, slate roof, pine finish, grates, mantels, stained glass, etc.; cost $4,500.

Architect W. W. Franklin reports: For Mr. P. Nelson, a dwelling; materials: frame, stone foundations, gas, plumbing, plate and stained glass, grates, etc.; cost $4,500. Also plans for Henry Pogue, Esq., of H. & S. Pogue, for a brick dwelling; materials: pressed brick, slate roof, furnace, grates, pine finish, gas, plumbing, stained glass, etc.; cost $5,000.

Architects Kuhlman & Decamp report: For J. J. Moore, Seventh and Race streets, a residence; materials: frame, slate roof, blinds, gas, plumbing, stained glass, etc.; cost $3,500.

Architect George W. Rapp has drawn plans for remodeling a restaurant; materials: brick, iron, plumbing, gas, electric light, tiling, steam heat, etc.; cost $10,000.

Architects Samuel Hannaford & Sons report: For Mr. L. B. Harrison, a store building, six stories high; materials: pressed brick, stone trimmings, iron, elevators, gas, steam heat, etc.; cost $45,000. Also at the town of Wilmington, Ohio, under their supervision, will be erected a model opera house; the lower part will be used for municipal purposes; materials: pressed brick, tin and slate roof, steam heat, scenery, chairs, etc.; cost to remodel, about $15,000.

Architect Emil G. Rueckert has plans for G. H. Stiretman for two residences; materials: frame, slate roof, gas, stained glass, grates, wood mantels, plumbing, etc.; cost $7,500.

Cleveland, Ohio.—Architect Joseph Daniels: For the Homeopathic Hospital College Society, a four-story college hospital; size 35 by 72 feet; brick and stone; to cost $35,600.

Architect C. F. Schweinfurth: For Arnold Saunders, a three-story brick dwelling; size 34 by 55 feet; cost $30,000; and a two-story frame barn, 38 by 45 feet; to cost $5,000. For H. W. Osborne, a two-story frame dwelling; size 38 by 48 feet; cost $5,000.

Architect A. M. Smith: For Florence Harkness, a three-story "Lend-a-Hand" Mission; size 52 by 64 feet; brick; cost $18,500.

Architects Coburn & Barnum: For the Western Reserve University, a two-story frame dwelling; size 37 by 56 feet; cost $7,500.

Architect Ed Schwabe: For E. J. Siller, a two-story frame dwelling; size 52 by 30 feet; cost $6,000.

Architect George F. Hammond: For the Electric Power Company, a smoke stack building; size 14 by 14 feet; brick; to cost $8,400.

Architect Clarence O. Arey: For J. J. Tracey, a five-story store; size 47 by 72 feet; brick and terra cotta; to cost $60,000.

Architect's name not reported: For the Bradley estate, a three-story store and apartment building; size 48 by 98 feet; to cost $15,000; McMillan and Collester, contractors. For Moritz Goodman, a three-story store and tenement building; to cost $10,200. For G. C. Julier, two-story frame residence; size 38 by 45 feet; to cost $10,000; Robbins and Park, contractors. For Mrs. Beemis, a three-story brick store and printing office; size 70 by 65 feet; cost $9,000. For Schneider and Trenkamp, a brick foundry building; size 66 by 94 feet; cost $5,000.

14	permits	granted	in	March,	1892,	store and block	$191,550
222	"	"	"	"	"	frame	279,410
214	"	"	"	"	"	alterations	69,624
450	"	"	"	"	"	total	$540,584

Denver, Colo.—Architect A. M. Stuckert: For S. Court, a two-story brick residence, size 42 by 50 feet; to cost $6,000.

Architect F. Goodnow: For C. A. Booth, a three-story residence, size 72 by 43 feet; brick and stone; to cost $10,000.

Detroit, Mich.—Architects Donaldson & Meier: For Art Stove Company, a four-story brick manufacturing building, size 50 by 100 feet, to be built on the west side of Russell street near Milwaukee; cost $10,000. For St. John R. C. society, Monroe, Mich., a new brick church; to cost $10,000.

Architect A. T. Wiley: For J. E. Farley, a two-story brick residence, slate roof; cost $10,000.

Architects Mason and Rice: For the Belle Isle Park Commissioners, a police station house; to cost $10,000. For James H. McMillan, a two and one-half story brick and stone residence, on corner of Jefferson avenue and Dubois street; cost $35,000.

Architect W. E. Brown has plans for the Beckwith Memorial Opera House, at Dowagiac, Mich.; cost $50,000.

Architect G. W. Myer: For James Robinson, a two and one-half story brick residence; to cost $7,500.

Architect A. C. Varney: For J. E. Wells, Syracuse, N. Y., a two-story frame residence; cost $8,000. For A. H. Piper, a double two-story brick residence; to cost $7,000.

Architects Malcombson & Higginbotham: For the Board of Education, a brick school house, size 132 by 82 feet; cost $30,000. Also a twelve-room brick school house, on Concord avenue, size 120 by 92 feet; cost $30,000. For E. H. Harvey, seven two-story frame dwellings; to cost $14,000. For August J. Loeffler, a two-story brick store at Wyandotte, Mich.; cost $6,000.

Architect Harry J. Rill: For Julius Kegel, a two-story double brick residence; cost $7,000.

Architect A. E. French: For Henry Williams, a two and one-half story brick residence; cost $10,000.

Architect E. C. Van Leyen: For J. E. Anderson, a three-story frame hotel, Mt. Clemens, Mich., size 40 by 70 feet; cost $9,000. For Wm. Cottrell, a two-story frame residence, Mt. Clemens, Mich., size 44 by 60 feet; cost $12,000. For Messrs. Yerkes & Gorton, a two-story frame residence; cost $5,000.

Architect H. A. Brady: For C. W. H. Potter, a two-story block residence flats; to cost $6,000

Architect A. G. Mattssen: For James E. Scripps, a two-story brick building, size 85 by 125 feet; cost $10,000.

Architects Rogers & McFarland: For Fred O. Paige, a two-story brick residence; cost $6,000. For Power's Wayne County Creamery, a three-story cold storage warehouse, at Milwaukee Junction; cost $5,000.

Architects A. E. Walshe & Son: For Frank Hildebrant, a three-story brick store and residence flat; cost $9,000.

Architects M. L. Smith & Son: For Thomas Barlum, a three-story store and flat building; to cost $30,000.

Joliet, Ill.—Architect H. Boehme reports the following: Remodeling St. Patrick's church; cost $5,000. Residence for James O'Gorman; $5,000. Residence for W. M. Cochran; cost $7,500. A double store building for James Burke; to cost $7,000. A large store building for Henry Rocka; to cost $6,000.

Louisville, Ky.—Architects McDonald Bros.: Residence for J. W. Green, Third near Weissenger avenue; to cost $9,500. Brick and redstone trimmings, slate roof; three stories in height. Alterations of residence for C. M. Garth, Esq., Third near Oak streets; to cost $3,500; to have metal roof. Warehouse for Bell, of Nelson Distilling Company; to be frame, covered with corrugated iron, 10,000 barrels capacity. Dwelling for Mr. Herndon, Owington, Kentucky; cost $7,000; brick and stone, slate roof.

Architects Drach & Thomas: Residence, J. B. Pirtle, Esq.; First near Ormsby avenue; brick and stone, metal roof; to cost $6,000; three stories; contract let. For W. A. Hass, residence; brick and stone, slate roof; cost $7,500; location Garvin place. Storehouse and flats for Mrs. Mary S. Jones; to cost $9,000; on Market and Chapel streets; to be of brick and stone, iron front. Block of residences for Messrs. J. and L. Barkhouse, Second and Ormsby avenues; to cost $24,000; to be of brick and stone, slate roof. Double residence for Mr. P. C. Brecher, Twenty-third and Jefferson streets; to cost $7,000; brick and stone, metal roof. Alterations for Mr. J. W. Sprague, addition to residence; to cost $2,600; Fourth near Kentucky streets. Office for Doctor Brzozowski; to be of frame; to cost $1,800; Jefferson and Handcock streets.

Architects Clarke & Loomis: The Louisville Medical College, northwest corner First and Chestnut streets; to cost $90,000; size 86 by 184 feet; to be four stories, tower 112 feet in height; to have two amphitheater lecture halls; exterior to be of Bedford stone. Store building for Messrs. Levy Bros., northeast corner Third and Market streets; to cost $67,000; to be five stories, having tower; to be of Roman brick, redstone and terra cotta trimmings, with asphalt roof. Residence for Mr. Theo. Conrad, St. James court; to cost $35,000; exterior wall Bedford stone, slate roof; to be three stories in height. Residence for Mr. S. S. Meddis, Third near Burnett avenue; to cost $16,000; to be three stories, brick, redstone trimmings, with slate roof. Three dwellings for Protestant Episcopal Orphan's Home, Morton avenue and Edwards street; to cost $15,000; brick and stone trimmings, metal roof; to be two and one-half stories. Residence for Messrs. G. W. Conway, Third near Ormsby avenue; cost $18,000; freestone front and trimmings, slate roof; to be three stories high. Workshop for Louisville Industrial School of Reform; brick, with stone trimmings, metal roof; to cost $15,000; location Third and G streets. Residence for Judge John Roberts, Ormsby avenue near Twenty-second street; to cost $7,000; brick, with stone and terra cotta trimmings; slate roof, to be three stories. Brick tenement houses for Mr. Joseph Dunlap; to be two stories; cost $4,000; location Twelfth and Congress streets. Residence for A. M. Dick, Esq., with stone and terra cotta trimmings, metal roof, three stories; to cost $9,000; location Second near Oak street. Residence for Mr. Lawson Woolridge; to cost $5,000; located on Broadway near Thirteenth street; brick, stone trimmings, metal roof; three stories. Store building for J. W. E. Bayly, four stories and cellar, iron front, metal roof; cost $15,000; location 635 West Main street; size 22½ by 180 feet. Store building for Monk's Estate, three stories and cellar, iron front, metal roof; cost $12,000; location 639 West Main street; size 19½ by 180 feet. Store building for C. W. McCord; size 22½ by 180 feet; four stories and cellar, stone front, metal roof; cost $13,000; location 631 West Main street. Store building for B. J. Clay; four stories and cellar, iron front, metal roof; cost $20,000; location 517 West Main street; size 22½ by 180 feet.

Pittsburgh, Pa.—Architect Frank Irving Cooper: For James S. Ramsey, a brick dwelling-house; contract not let. For Central School Board, New Brighton, Pennsylvania, a brick and stone school building; contractor, George Krurger.

Architect J. P. Brennan: For J. J. Flannery, a two-story brick residence; to cost $15,000. For the Little Sisters of the Poor, a two-story brick chapel; cost $20,000.

Architect J. P. Bailey: For the Presbyterian church at Chillicothe, Ohio, a two-story stone church; to cost about $55,000.

Springfield, Ill.—Architect George H. Helmle: For S. W. Currier, two-story brick and stone store and flat; 40 by 70 feet; cost $7,000. For Franz Bode, remodeling frame residence; cost $3,500. For LaFayette Irwin, two-story brick, and stone dwelling; 36 by 50 feet, ten rooms; cost $4,000. For N. D. Ricks, Taylorville, Ill.; two-story frame dwelling, nine rooms; 36 by 50 feet; cost $5,000.

St. Louis, Mo.—Architect J. B. Legg: For the Daughters of the Confederacy, a Confederate home at Higginsville; the building will be 90 by 106 feet, two stories, and cost about $35,000.

Architects Barnett & Haynes: For A. P. Ghio, a two-story store and flat building, size 70 by 150 feet; brick and stone foundations; cost $33,000. For Mrs. Clara S. Collins, a two-story residence; size 28 by 50 feet; brick, with stone trimmings; cost $15,000

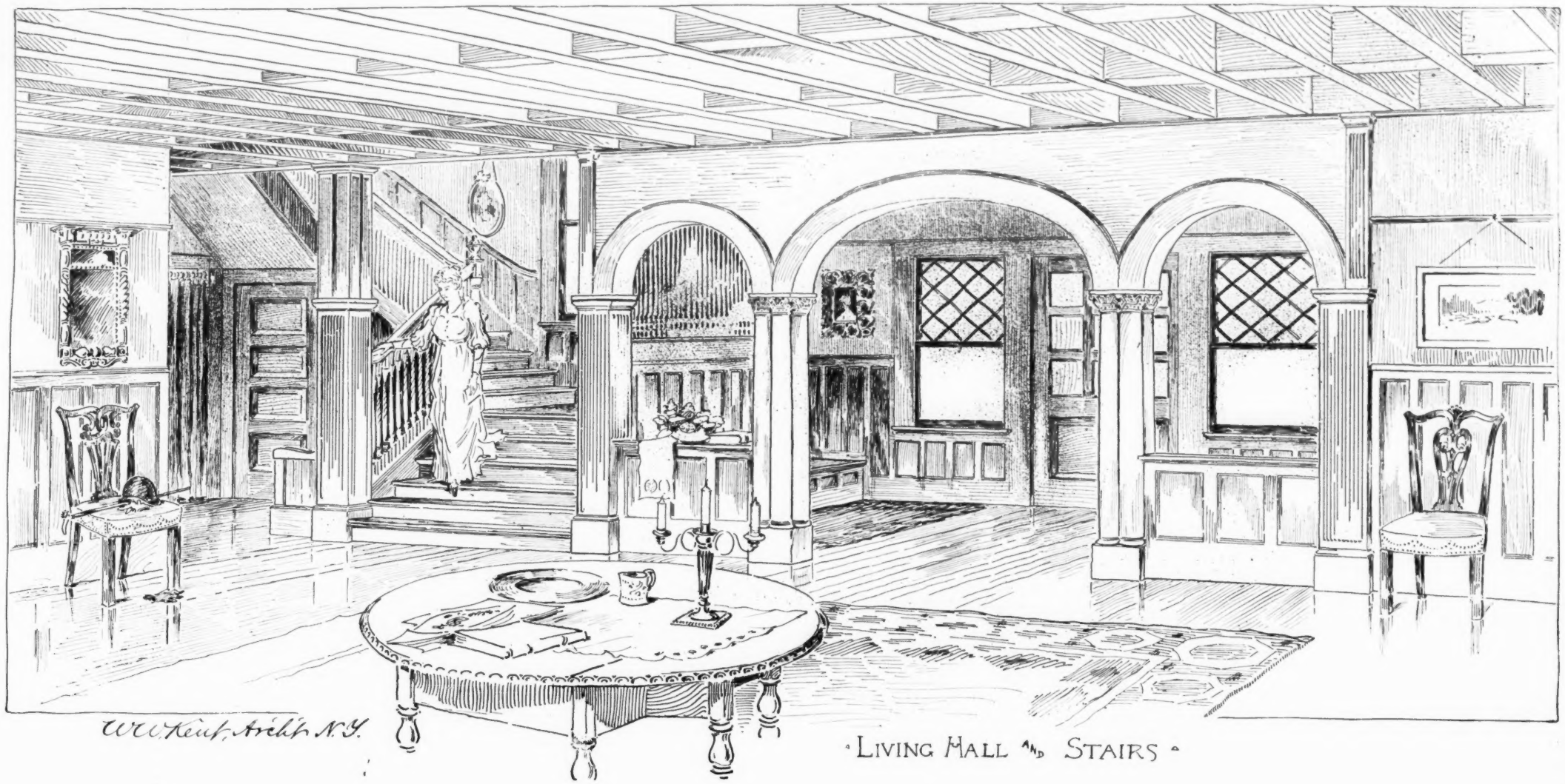
Architect L. B. Blackwood: For Mr. Ayers, a two-story residence; size 49 by 28 feet; brick and stone; cost $5,600.

St. Paul, Minn.—Architect Albert Tschocke reports plans for an apartment house to be erected on College avenue, for the Messrs. Owen; it will be of brownstone in the style of the Italian Renaissance, six stories in height and absolutely fireproof; no wood will be used except in doors and interior finish; the building will have 170 feet frontage on College avenue and will extend back 240 feet; there will be about twenty flats on each floor in four to six-room suites, with baths and all modern conveniences; a handsome gymnasium with a swimming bath, will be a feature of the building; the cost will be about $500,000.

Clarence B. Gardiner has let the contract for an apartment house on Forbes street, just off west Seventh street; it will be four stories high, brown Bayfield stone and pressed brick, and 100 by 80 feet in dimensions; all modern improvements; the building will be ready for occupancy by September 1, 1892, and will cost about $50,000.

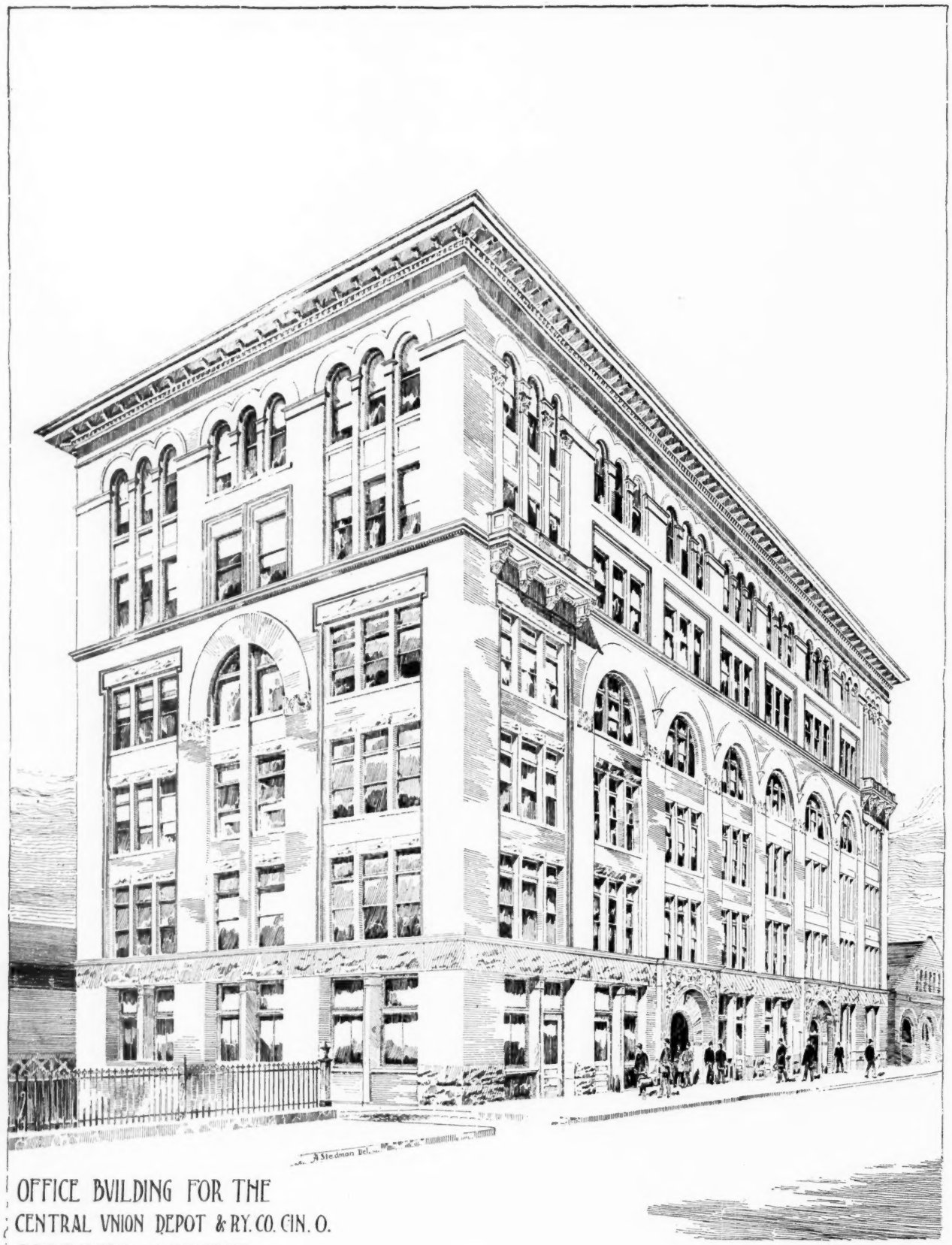
Architect C. A. Wallingford is drawing plans for three houses for Frederick S. Bryant, on Crocus hill; to be constructed of brown, Portage entry and Bedford stone respectively; they will have natural wood finish and be of large size; The same architect is drawing plans for a four-story brown stone apartment building on College avenue, for D. Hortum, of Wisconsin; it will be finished in hardwood and the entrance will be of marble, with mosaic floors and wrought grille work above mahogany finish; cost about $19,500.

E. N. Saunders has bought 240 feet on Summit avenue, corner Virginia, for a residence; J. J. Parker the next 40 feet, and J. H. Allen the next 60 feet, for the same purpose; the property sold for $300 a front foot and some handsome houses will be erected.



W.W. Kent, Archt. N.Y.

LIVING HALL AND STAIRS



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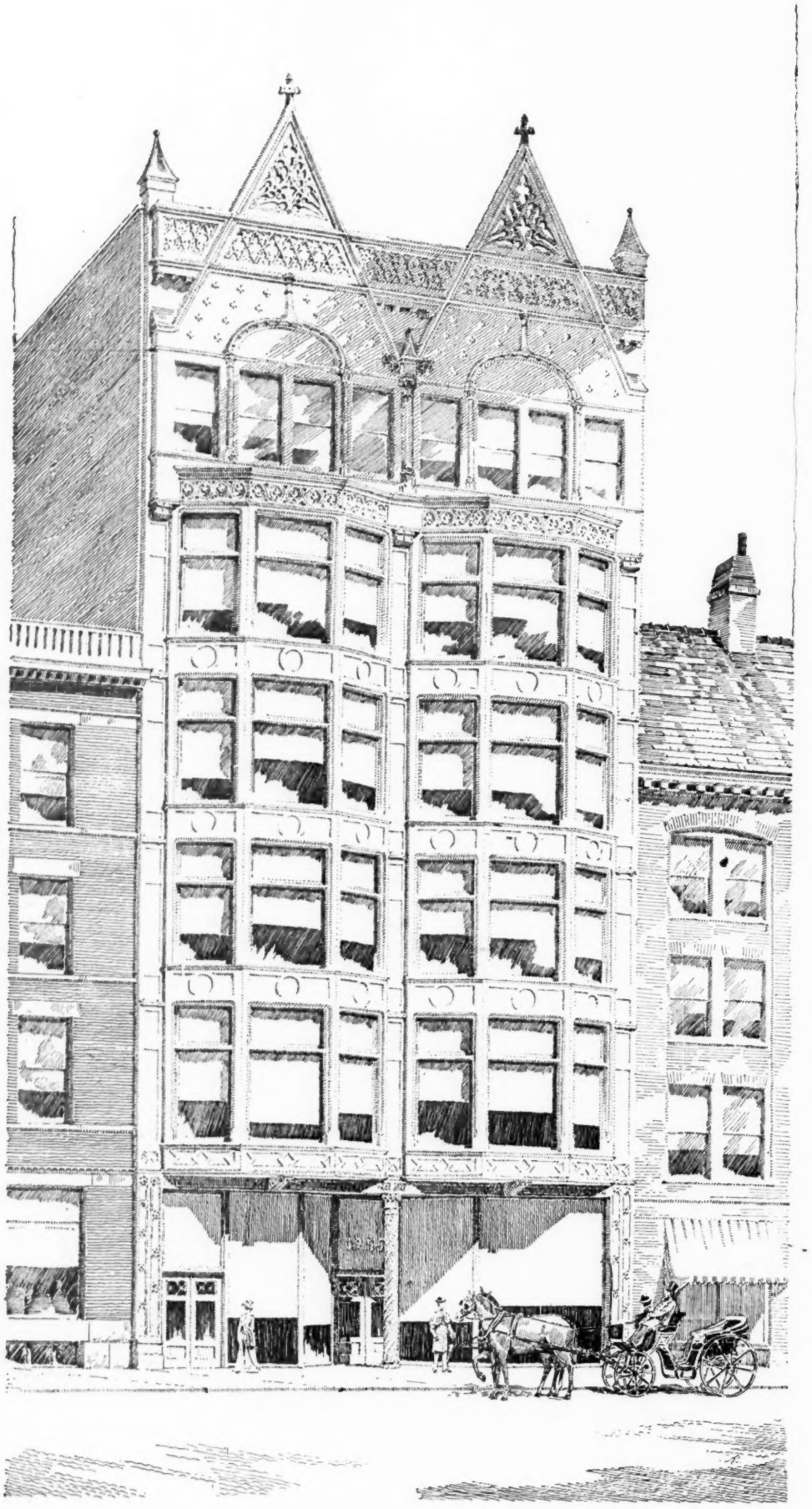

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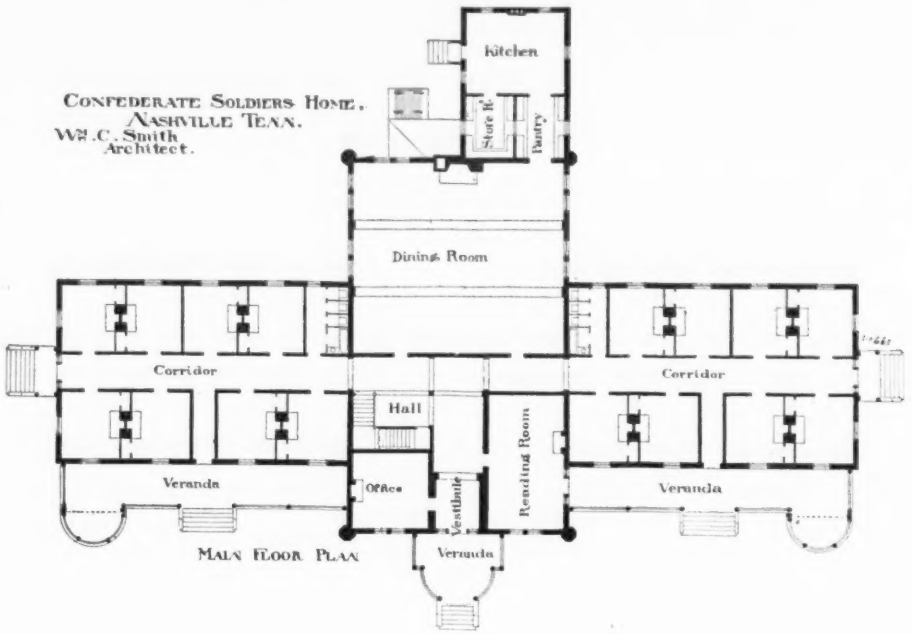
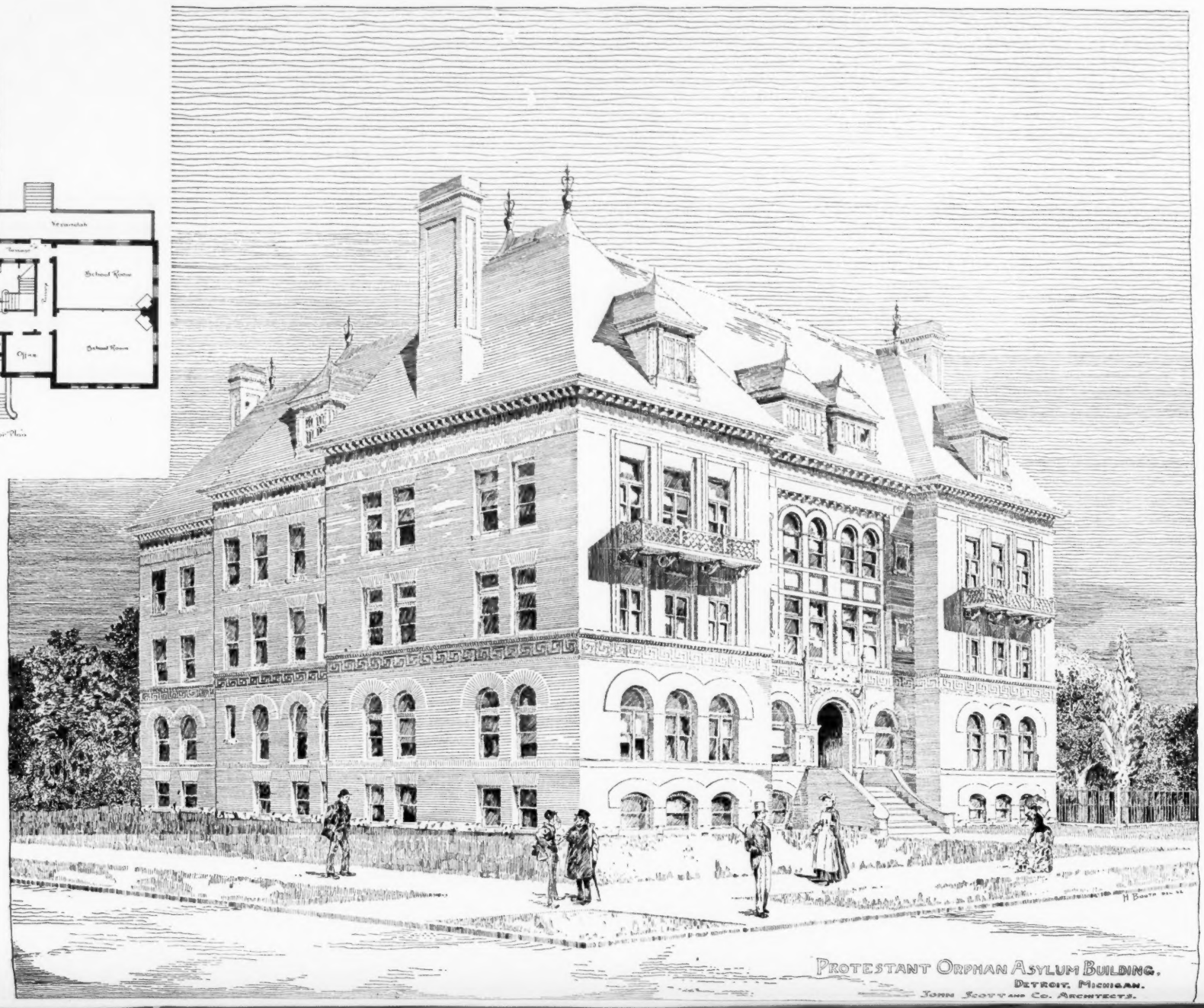

CONFEDERATE SOLDIERS HOME.
NASHVILLE TENN.
Wm. C. Smith
Architect.
Kitchen
Store R.
Pantry
Dining Room
Corridor
Corridor
Hall
Office
Vestibule
Reading Room
Veranda
Veranda
Veranda
MAIN FLOOR PLAN

First Floor Plan



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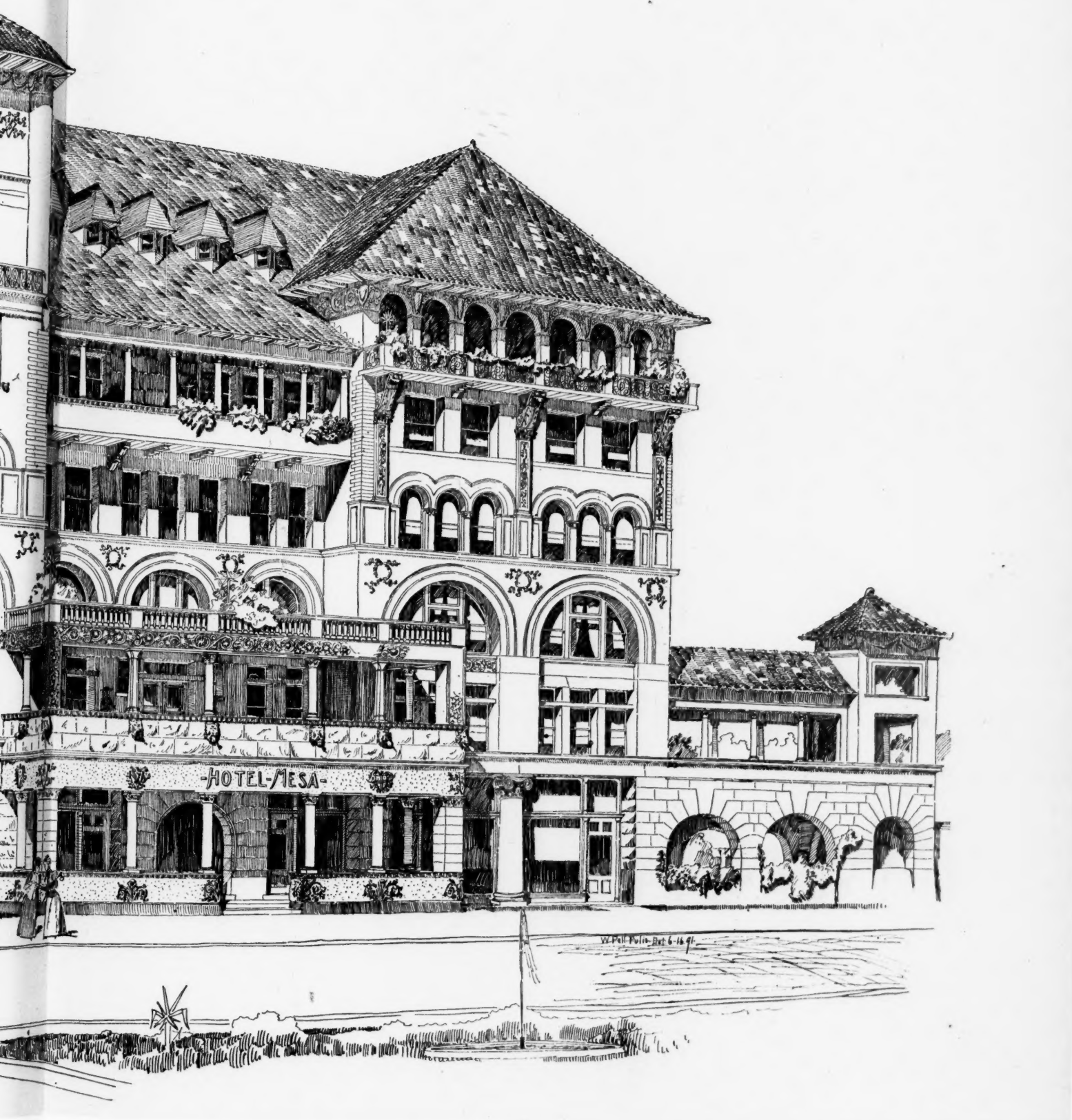
DETROIT, MICHIGAN.
JOHN SCOTT AND CO. ARCHITECTS.

Protestant Orphan Asylum Building.
Detroit, Michigan.
John Scott and Co. Architects.

HOTEL MESA, PUEBLO,

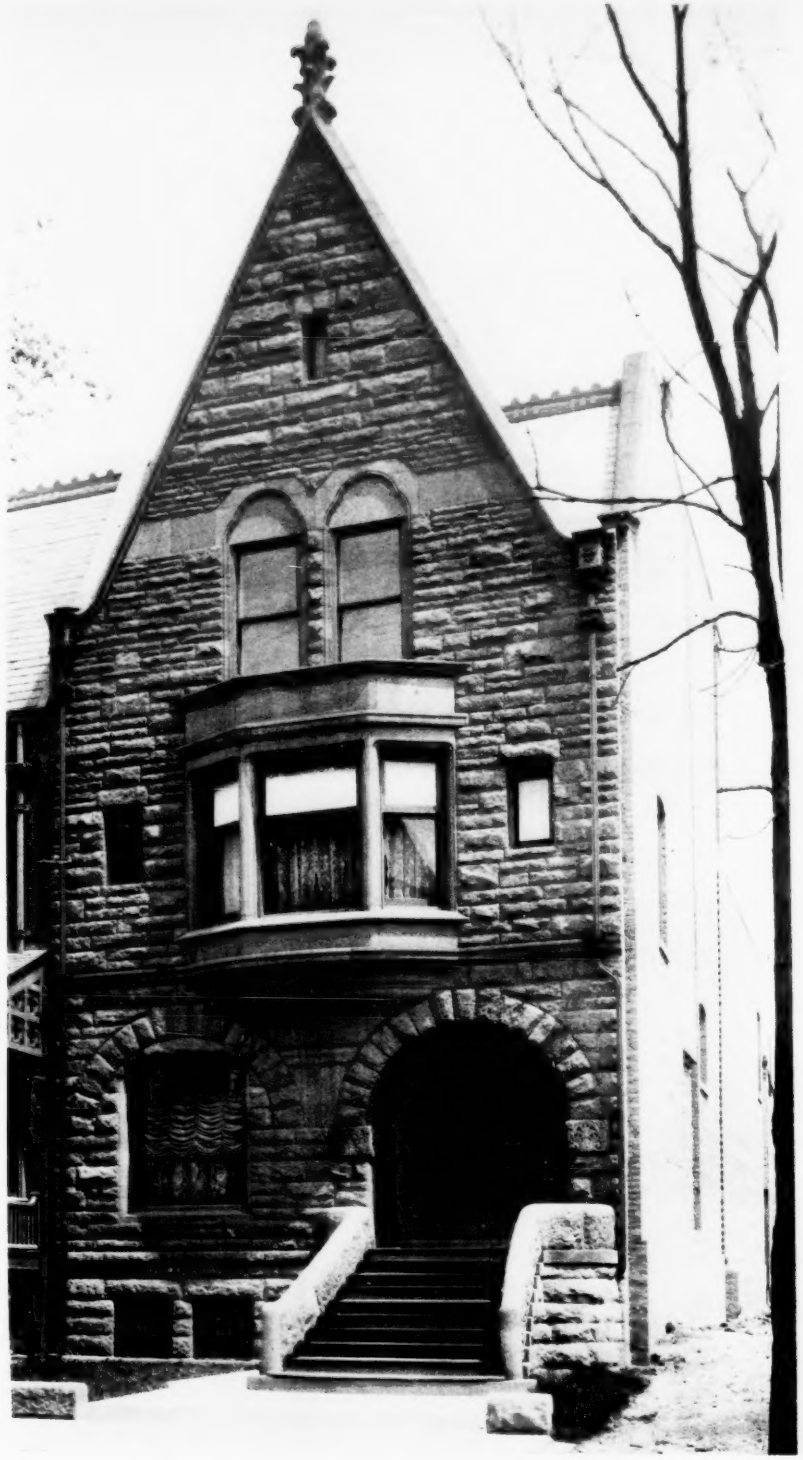
LANG & PUGH, ARCHITECTS, DE



A, PUEBLO, COLORADO.

H, ARCHITECTS, DENVER, COLO.

BURNHAM & ROOT, ARCHITECTS



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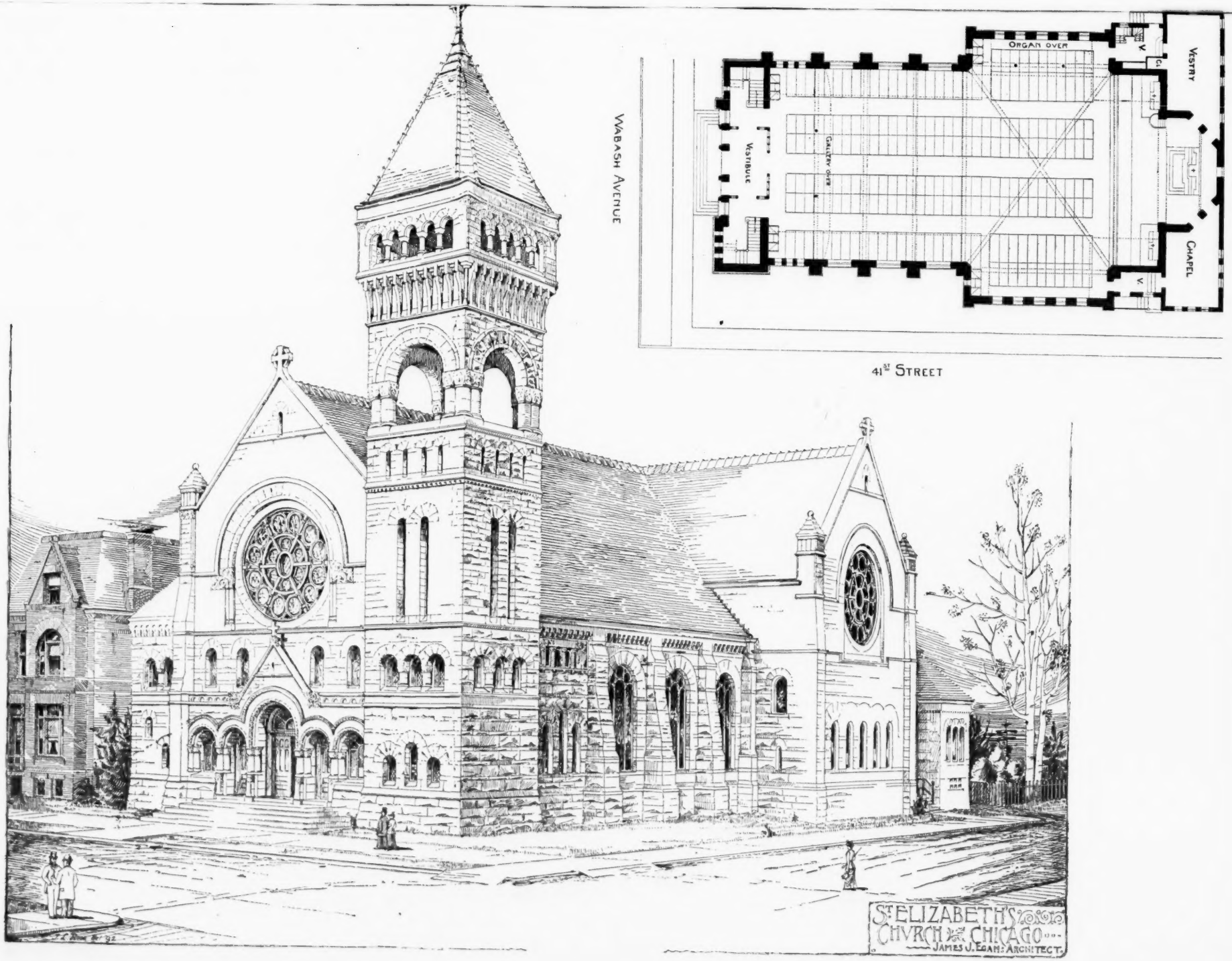
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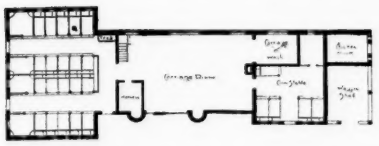

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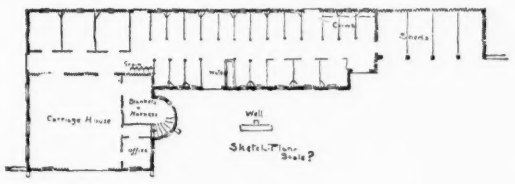
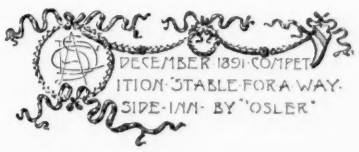
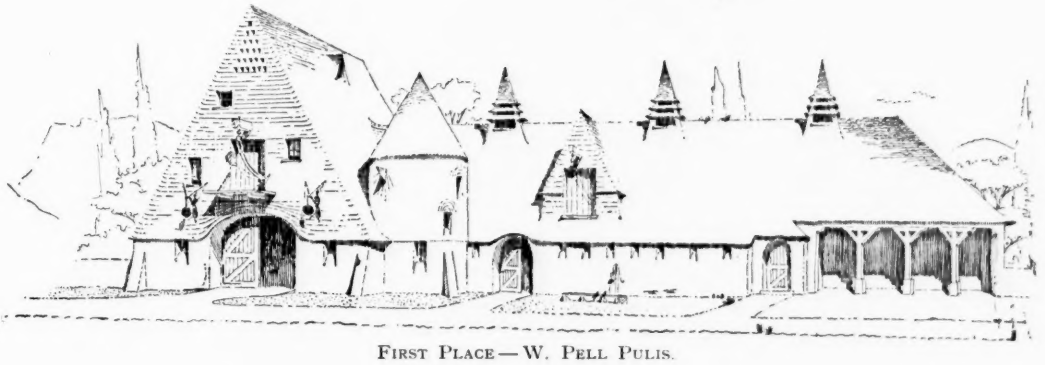






FIRST PLACE — W. PELL PULIS.

DASC COMPETITION.-

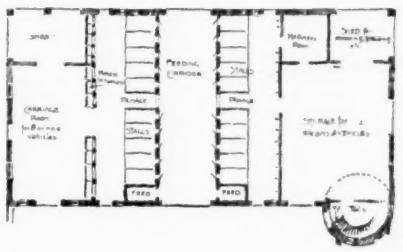
SKETCH COMPOSITION of A STABLE FOR A COUNTRY-INN.

CONDITIONS: STABLE TO BE LARGE ENOUGH TO ACCOMODATE TWENTY HORSES AND TEN VEHICLES INCL. SHEDS ETC. STYLE, LOCATION AND RENDERING ARBITRARY. SIZE OF SHEET 18×22

DISCRIPTION:

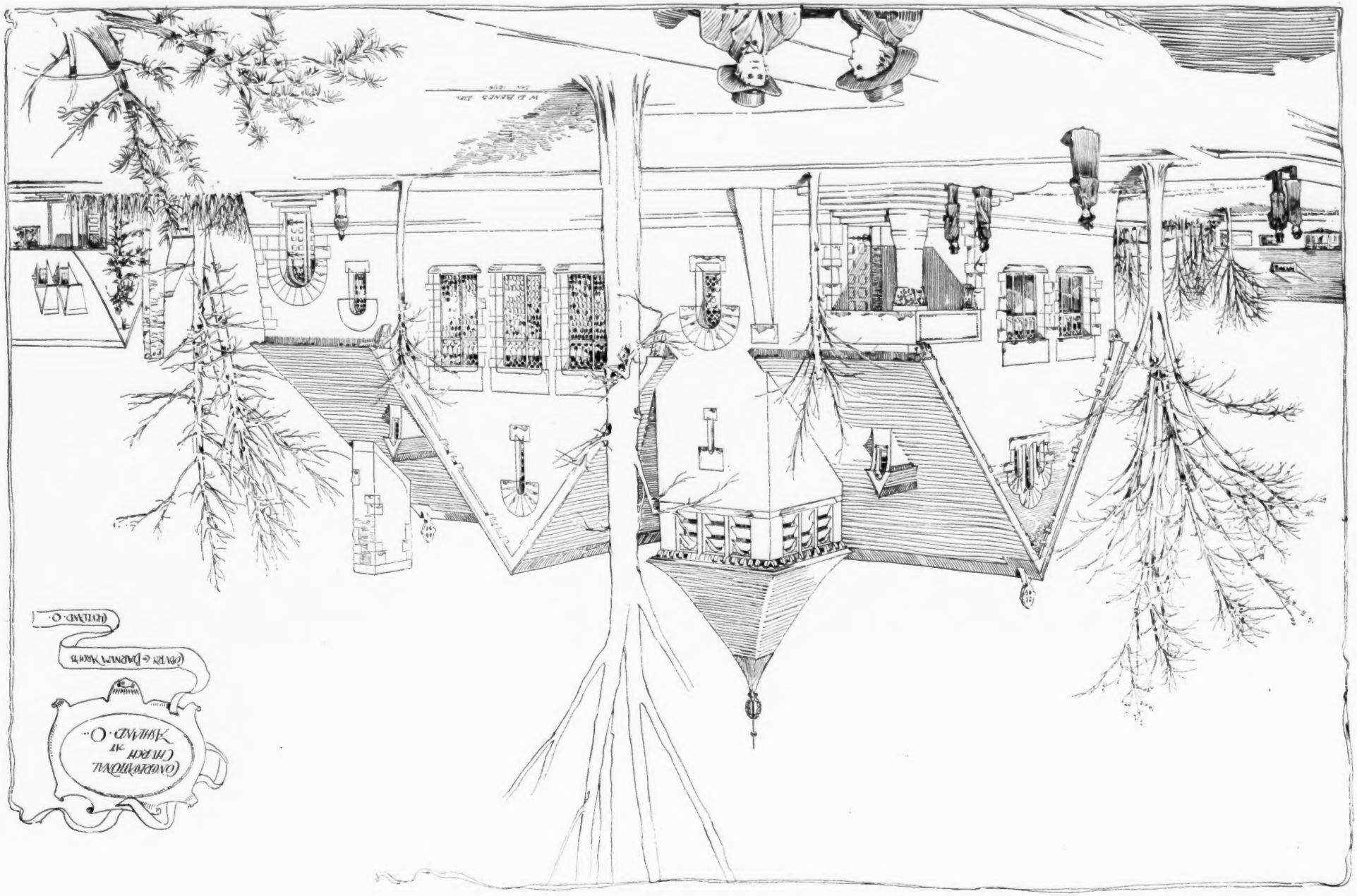
THE STABLE is intended to be located in a hilly romantic country on the road leading to an old romantic town.
The stable is planned according to conditions — The stalls are so arranged that the horses can be fed from one large corridor thus avoiding the setting of the stable small interior dividers, besides other inconveniences. The horses on both sides of the stalls have by having gates at the ends of the stalls. There are recesses or hooks behind each stall for the horses also special harness room. A loaded hay wagon may drive into the main or feeding corridor and the hay may be pitched into the store room directly from the wagon. This corridor may be open to the roof or have a trap door — There will be several rooms for servants in upper part of stable besides the store room — Ventilation will be received through openings in roof and windows.
A Gable may be set on by two towers as well as three will be a bakery & stilling with shed in the center of the court in small and though for the horses.

SUBMITTED BY ROMEO.



MENTIONED — J. G. LINK.

DENVER ARCHITECTURAL SKETCH CLUB COMPETITION FOR A STABLE FOR A WAYSIDE INN.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SKETCH OF
OFFICE BUILDING
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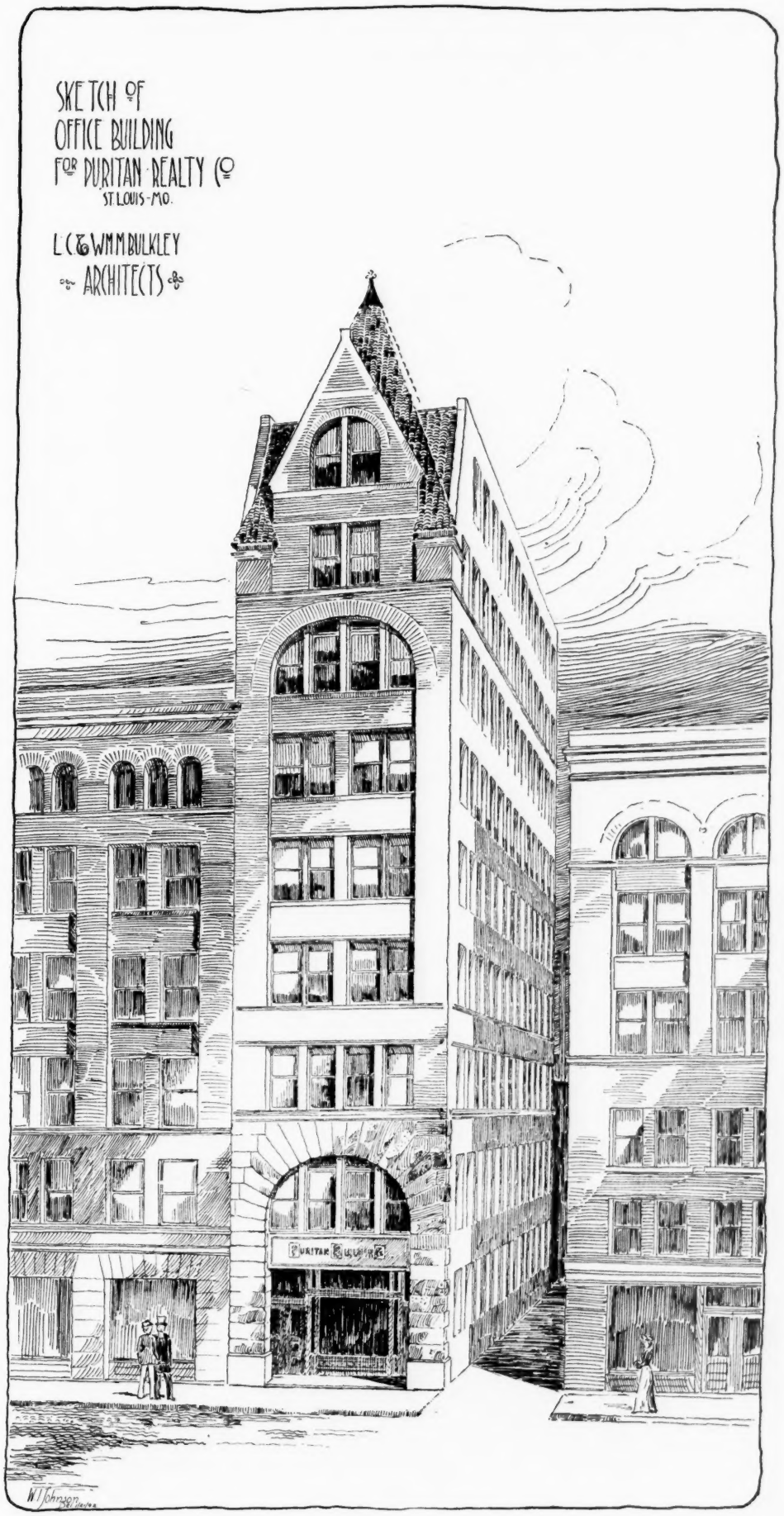
ARCHITECTS



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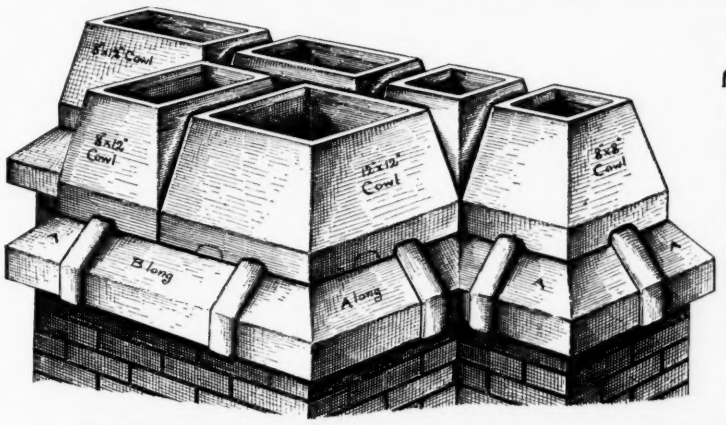

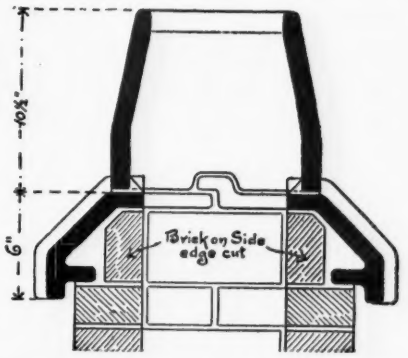

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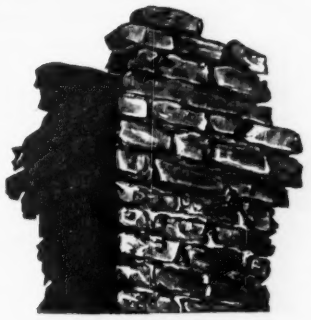

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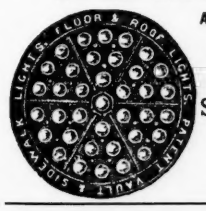

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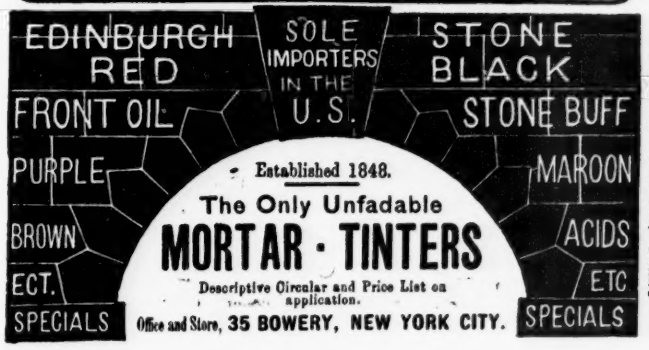

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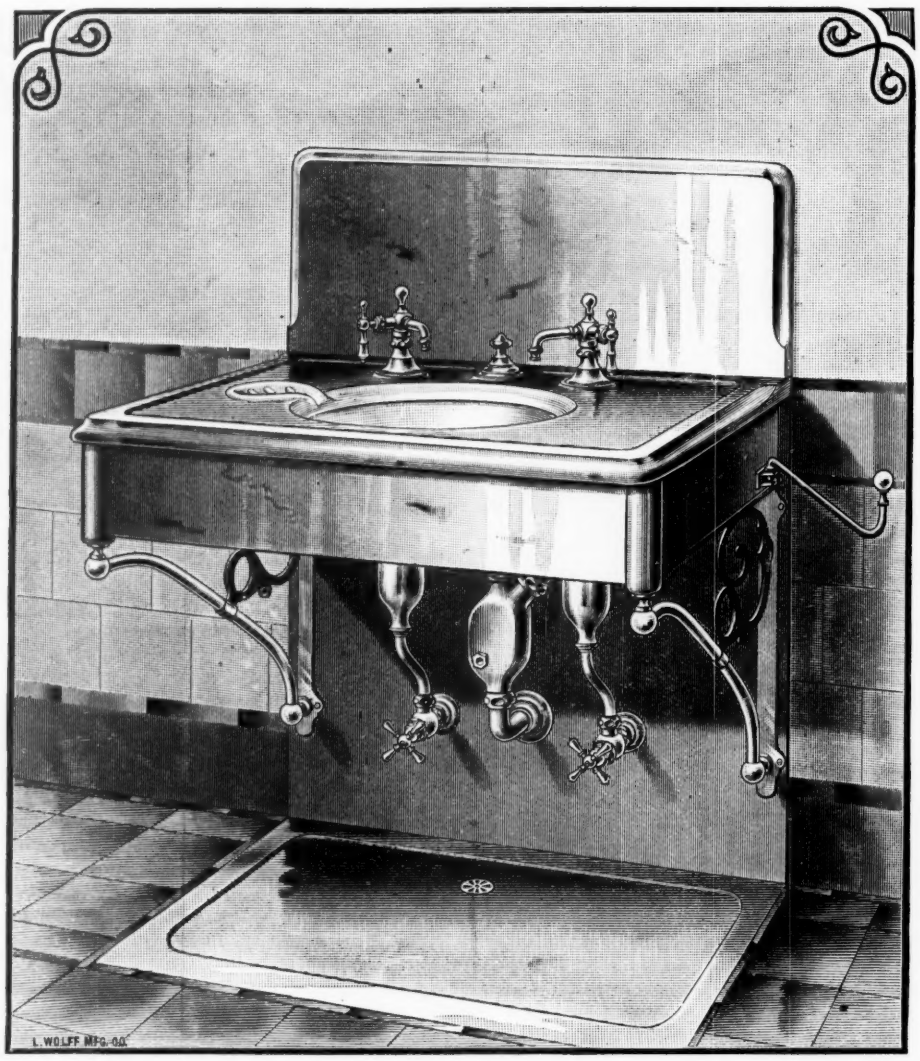

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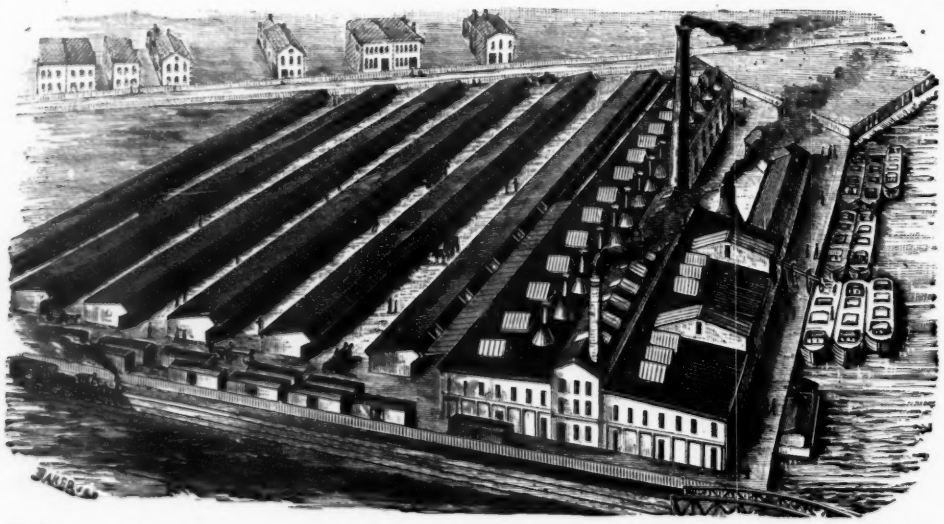

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